

EXHIBIT E

Cameras

Collectively, iPhone and iPad devices are some of the most popular still and video cameras in the world. In addition to capturing stills and movies, iOS offers a powerful platform for computational photography and computer vision applications. To make the most of iPhone and iPad cameras, you should be aware of the specific capabilities of each camera device. This chapter summarizes the special features of recent iPhone and iPad cameras and links to the APIs you'll need to use those features in your app.

iOS Device Camera Summary

Recent iPhone and iPad models include a number of unique camera features, summarized in Table 4–1. For details on each feature, follow the links in the table to the corresponding sections below.

Table 4–1 iPhone Camera Features Summary

Feature	iPhone 8 iPhone 8 Plus iPhone X	iPhone 7 iPhone 7 Plus	iPhone 6s iPhone 6s Plus	iPhone SE	iPhone 6 iPhone 6 Plus
Maximum Still Image Resolution (back camera)	4032 x 3024 pixels (12 MP)	4032 x 3024 pixels (12 MP)	4032 x 3024 pixels (12 MP)	4032 x 3024 pixels (12 MP)	3264 x 2448 pixels (8 MP)
Maximum Still Image Resolution (front camera) <i>Items in italic: see High Resolution Still Images During Video Capture</i>	<i>3088 x 2320 pixels (7 MP)</i>	<i>3088 x 2320 pixels (7 MP)</i>	<i>2576 x 1932 pixels (5 MP)</i>	1280 x 960 pixels (1.2 MP)	1280 x 960 pixels (1.2 MP)
Notable Video Resolutions and Frame Rates (back camera)	2160p30 (4K) 2160p60 (4K) 1080p30 1080p60	2160p30 (4K) 1080p30 1080p60	2160p30 (4K) 1080p30 1080p60	2160p30 (4K) 1080p30 1080p60	1080p30 1080p60
High Frame Rate (HFR) / Slow Motion Video Formats	1080p240 1080p120 720p240	1080p120 720p240	1080p120 720p240	1080p120 720p240	720p240
Single-Shot / Video HDR Formats	No	No	Back camera: not supported Front camera: most formats	No	Back camera: 540p30, 720p30, 1080p30, 1080p60 Front camera: all formats
High Resolution Still Images During Video Capture (back camera)	up to 4032 x 3024 pixels (12 MP)	up to 4032 x 3024 pixels (12 MP)	up to 3840 x 2160 pixels (8 MP)	up to 3840 x 2160 pixels (8 MP)	up to 3264 x 2448 pixels (8 MP)
High Resolution Still Images During Video Capture (front camera)	up to 3088 x 2320 pixels (7 MP)	up to 3088 x 2320 pixels (7 MP)	up to 2576 x 1932 pixels (5 MP)	no (same as video resolution)	no (same as video resolution)
Optical Image Stabilization (OIS)	Still / bracketed / video capture	Still / bracketed / video capture	<i>iPhone 6s:</i> No <i>iPhone 6s Plus:</i> Still / bracketed / video capture	No	<i>iPhone 6:</i> No <i>iPhone 6 Plus:</i> Still image capture only

RAW Photo Capture (back camera only)	Yes	Yes	Yes	Yes	No
Focus Pixels (back camera only)	Yes	Yes	Yes	Yes	Yes
Cinematic Video Stabilization	Yes	Yes	Yes	Yes	Yes
Retina Flash	Yes	Yes	Yes	Yes	No
Live Photos	Yes	Yes	Yes	Yes	No
Wide-Gamut Color Capture	Yes	Yes	No	No	No
Dual Camera	Yes (iPhone 8 Plus and iPhone X)	Yes (iPhone 7 Plus only)	No	No	No
TrueDepth Camera	Yes (iPhone X only)	No	No	No	No

Table 4–2 iPad Camera Features Summary

Feature	iPad Pro 10.5-inch 12.9-inch (2nd generation)	iPad (5th generation)	iPad Pro (12.9-inch)	iPad Pro (9.7-inch)
Maximum Still Image Resolution (back camera)	4032 x 3024 pixels (12 MP)	3264 x 2448 pixels (8 MP)	3264 x 2448 pixels (8 MP)	4032 x 3024 pixels (12 MP)
Maximum Still Image Resolution (front camera) <i>Items in italic: see High Resolution Still Images During Video Capture</i>	<i>3088 x 2320 pixels (7 MP)</i>	1280 x 960 pixels (1.2 MP)	1280 x 960 pixels (1.2 MP)	<i>2576 x 1932 pixels (5 MP)</i>
Notable Video Resolutions and Frame Rates (back camera)	2160p30 (4K) 1080p30 1080p60	1080p30 1080p60	1080p30 1080p60	2160p30 (4K) 1080p30 (preset) 1080p60
High Frame Rate (HFR) / Slow Motion Video Formats	1080p120 720p240	720p240	720p240	1080p120 720p240
Single-Shot / Video HDR Formats	No	No	Back camera: not supported Front camera: all formats	Back camera: not supported Front camera: most formats
High Resolution Still Images During Video Capture (back camera)	up to 4032 x 3024 pixels (12 MP)	up to 3264 x 2448 pixels (8 MP)	up to 3264 x 2448 pixels (8 MP)	up to 3840 x 2160 pixels (8 MP)
High Resolution Still Images During Video Capture (front camera)	up to 3088 x 2320 pixels (7 MP)	no (same as video resolution)	no (same as video resolution)	up to 2576 x 1932 pixels (5 MP)
Optical Image Stabilization (OIS)	Yes	No	No	No
RAW Photo Capture (back camera only)	Yes	No	No	Yes

Focus Pixels (back camera only)	Yes	No	No	Yes
Cinematic Video Stabilization	Yes	Yes	Yes	Yes
Retina Flash	Yes	Yes	No	Yes
Live Photos	Yes	Yes	No	Yes
Wide-Gamut Color Capture	Yes	No	No	Yes
Dual Camera	No	No	No	No
TrueDepth Camera	No	No	No	No

Camera Features Overview

These subsections provide further details on the features listed in Table 4–1 above.

Typically, you can set up a capture session using a session preset to quickly gain access to a common configuration of camera features, as described in *Use a Capture Session to Coordinate Data Flow*. However, some specialized camera features—such as ultra high definition video, high frame rate, and the ability to capture high resolution stills during video capture—require an alternate approach. The `formats` property of each `AVCaptureDevice` object provides the full list of capture options for that device. To use specialized features, iterate through the `formats` array and examine the properties of each `AVCaptureDeviceFormat` object within to find the one whose features you want to use; then, set the device's `activeFormat` property to that format. (For details on the choice between session presets and capture formats, see *WWDC 2013: What's New in Camera Capture*.)

Maximum Still Image Resolution

By default, choosing the `AVCaptureSessionPresetPhoto` preset for the `AVCaptureSession sessionPreset` property enables still image capture at the highest possible resolution for a device camera. To access lower-resolution formats, examine the `AVCaptureDevice formats` array and choose a format to set as the `activeFormat` for the device.

For some devices, the front-facing camera does not output its maximum resolution for still images by default. To access the maximum still image resolution, see *High Resolution Still Images During Video Capture*.

Video Resolutions and Frame Rates

If you configure capture using the `AVCaptureSessionPresetHigh` preset, the captured video format is 1080p30 even on devices which support higher resolutions and frame rates. For 4K UHD resolution at 30 fps, use the `AVCaptureSessionPreset3840x2160` preset.

To capture video at a higher frame rate in 1080p60 or 4K60 format, you must configure capture by choosing an appropriate `AVCaptureDeviceFormat` option for the `AVCaptureDevice activeFormat` property. Note that the highest data rate formats (such as 4K60) require using the HEVC codec for recording.

High Frame Rate (HFR) / Slow Motion Video

To capture high frame rate video (and thus support smooth slow motion by playing back captured video at a lower frame rate), set the `AVCaptureDevice activeFormat` property to an `AVCaptureDeviceFormat` option whose `videoSupportedFrameRateRanges` property includes a high (120 FPS or greater) frame rate. Then, when capturing video, set the device's `activeVideoMinFrameDuration` and `activeVideoMaxFrameDuration` properties to reflect the frame rate you wish to use for capture. For example, to capture at 180 FPS on a device that supports 240 FPS capture, choose the format whose maximum frame rate is 240 FPS, then set the active min and max frame duration to `CMTimeMake(1, 180)`.

Note that the highest data rate formats (such as 1080p240) require using the HEVC codec for recording. To produce video files in a more compatible format, record in HEVC and then convert to a different format, or choose a format with a lower data rate (such as 1080p120).

Single-Shot / Video HDR

On supported devices, the camera sensor itself provides continuous, streaming high-dynamic-range output, as opposed to the traditional method of fusing a bracket of still images with differing EV values into a single high dynamic range photo.

To enable or disable video HDR, use the `AVCaptureDevice automaticallyAdjustsVideoHDEnabled` property.

High Resolution Still Images During Video Capture

By default, photo and still image outputs capture images at the resolution specified by the `activeFormat` property of the input `AVCaptureDevice` object. For example, while capturing a video at 640x480 resolution, still images are also captured at 640x480.

On supported devices, you can choose to capture high resolution still images during video capture. To enable this feature, use the `highResolutionPhotoEnabled` property in your photo settings for use with the `AVCapturePhotoOutput` class. The high resolution stills maintain the same aspect ratio and field of view as the active video format and are affected by video stabilization; use the `highResolutionStillImageDimensions` property of a capture format to find the dimensions used for still image capture.

Note: For certain devices, high resolution still image (HRSI) output is the only way to access the maximum resolution of the front-facing camera. See Table 4-1.

Optical Image Stabilization (OIS)

Supported back-facing cameras include a mechanism to adjust the lens during capture to counter user hand-shake. Note that OIS is most effective for longer exposure times, and offers limited benefit for exposure times shorter than 1/30 second. To enable or disable image stabilization:

- For still images, use the `autoStillImageStabilizationEnabled` property in your photo settings for use with the `AVCapturePhotoOutput` class. When this property is enabled, supported devices employ both optical and digital image stabilization to achieve their best possible low-light performance.
- For bracketed capture of still images, on supported devices, see the `AVCapturePhotoOutput.lensStabilizationDuringBracketedCaptureSupported` property and use the `AVCapturePhotoBracketSettings` class to set up a bracketed capture. This controls optical stabilization separately from digital stabilization.
- For video capture, the `AVCaptureConnection.preferredVideoStabilizationMode` property automatically enables both optical and digital stabilization on devices supporting video OIS.

RAW Photo Capture

In iOS 10 and later, the `AVCapturePhotoOutput` class enables capturing photos in RAW format on compatible devices. RAW formats provide minimally processed data from the camera's image sensor, preserving much more of the color gamut, dynamic range, and other information for each pixel in the captured image.

For details on capturing in RAW format, see *AVCapturePhotoOutput Class Reference*. To process captured RAW images, see *Core Image Programming Guide*.

Focus Pixels

On supported cameras, dedicated focus pixels provide depth information using phase detection. Continuous auto-focus changes are very fast and very subtle, so you can enable auto-focus during video recording without adding the throbbing effect of full focus scans to recorded video.

Focus pixels are always automatically enabled when the `AVCaptureDevice.focusMode` property is set to property to `AVCaptureFocusModeContinuousAutoFocus`.

To detect whether a capture format supports focus pixels, use the `AVCaptureDeviceFormat` property `autoFocusSystem`. The value `AVCaptureAutoFocusSystemPhaseDetection` corresponds to formats that support focus pixels.

Note: On older devices that use contrast-detection auto-focus, the value of the `AVCaptureDevice.adjustingFocus` changes during automatic focusing. On devices with focus pixels, focus changes are smaller and more frequent, so this property's value does not change during focusing. Instead, observe the `lensPosition` property to see lens movements.

Cinematic Video Stabilization

All iPhone back-facing cameras supported by iOS 9 and later allow video stabilization. Some devices additionally support a more aggressive, dramatic, and fluid algorithm called cinematic video stabilization. This stabilization method reduces the camera's field of view, introduces more latency in the video capture pipeline, and consumes more system memory compared to standard video stabilization; as such, you may wish to disable it in scenarios where you need more control over those aspects of the video capture process.

To enable or disable cinematic stabilization, use the `AVCaptureConnection.preferredVideoStabilizationMode` property. In iOS 9 and later on supported devices, cinematic stabilization is the default when this property is set to `AVCaptureVideoStabilizationModeAuto`. After setting this property, use the `activeVideoStabilizationMode` property to determine whether cinematic stabilization was enabled—for formats that do not support cinematic stabilization, setting the preferred mode does not change the active mode.

Retina Flash

On supported devices, the display brightness can briefly increase to 3 times its usual maximum illuminance for use as a flash for the front-facing camera. When using this feature, the display also varies its color output to achieve the same effect as the True Tone flash of the back-facing camera. No separate API controls this feature—on supported devices, the `AVCaptureDevice.hasFlash` property reflects the availability of Retina Flash for the front-facing camera. As with the back-facing camera, you can use the `isFlashModeSupported:` and `flashMode` properties to control the flash.

Live Photos

On supported devices, the built-in Camera app can produce pictures that include motion and sound from the moments just before and after capturing a still image. Use the `UIImagePickerController` or `AVCapturePhotoOutput` class to capture Live Photos and the `PHLivePhoto` and `PHLivePhotoView` classes to work with and display Live Photo assets.

Wide-Gamut Color Capture

In iOS 10 and later, some devices and capture formats support capturing photos and video in the P3 color space, which covers a color gamut much broader than the sRGB color space. By default, a capture session automatically determines when to capture wide-gamut color, but you can also manually choose to capture in the sRGB or P3 color space.

When `AVCaptureSession.automaticallyConfiguresCaptureDeviceForWideColor` property is enabled (the default), the session automatically chooses whether to enable wide-gamut capture and configures the capture pipeline accordingly, based on your session configuration. If this property is enabled on a device that supports wide-color capture:

- If your session includes an `AVCapturePhotoOutput` object, the session automatically attempts to enable wide-color capture. However, adding other outputs to the session may disable automatic wide-color configuration, as noted below.
- If your session includes an `AVCaptureStillImageOutput` object, the session does not automatically enable wide-color capture. (The `AVCaptureStillImageOutput` class is deprecated in iOS 10.0; use the `AVCapturePhotoOutput` class instead to more easily support a broader set of photography features.)
- If your session includes an `AVCaptureVideoDataOutput` object, and also includes an `AVCapturePhotoOutput` and is using the `AVCaptureSessionPresetPhoto` session preset, the session automatically attempts to enable wide-color capture.
- If your session includes an `AVCaptureMovieFileOutput` object, the session does not automatically enable wide-color capture.

For configurations listed above that don't automatically enable wide-color capture, you can manually enable it by disabling the session's `automaticallyConfiguresCaptureDeviceForWideColor` property and setting the device's `activeColorSpace` property.

In all of the above cases, if your session uses a session preset other than `AVCaptureSessionPresetInputPriority`, the session automatically both enables wide-gamut color and selects a capture format that supports wide-gamut color. If you choose the input priority session preset (either directly or by setting the capture device's `activeFormat` property), the session automatically enables wide-color capture only if you've selected a capture format that supports wide color.

Note: Although it's possible to configure a video data or movie file capture session for creating output in the P3 color space, video files in this format may not be well supported for playback with third-party hardware or software.

Dual Camera

A dual camera is two separate back-facing cameras—one wide-angle, the other telephoto—that can work together as a single capture device. When setting up a capture session on a device with an dual camera, you can choose to use only the wide-angle camera, only the telephoto camera, or the dual camera. Choosing the dual camera capture device provides behavior similar to the built-in Camera app—the system automatically chooses which camera to use during capture, and can combine data from both cameras to improve capture output.

The `AVCaptureDevice.devices` and `devicesWithMediaType:` methods are deprecated in iOS 10 and later, and do not provide access to the dual camera device (instead, they provide only the wide-angle camera device). To determine whether a device contains a dual camera and select it for capture, you may either:

- Call the `AVCaptureDevice.defaultDeviceWithDeviceType:mediaType:position:` method, passing the `AVCaptureDeviceTypeBuiltInDualCamera` device type. If this method returns non-`nil`, the iOS device contains a dual camera. (If this

method returns `nil`, you can call it again, passing the `builtInWideAngleCamera` device type, to obtain the default back camera.)

- Create an `AVCaptureDeviceDiscoverySession` object, passing the device attributes you want to use for capture, and enumerate its `devices` list to choose a device for your capture session.

When you use the dual camera capture device, Optical Image Stabilization (OIS), RAW Photo Capture, High Frame Rate (HFR) / Slow Motion Video, and most manual controls are not available. To use these features, specifically select either the wide or telephoto capture device. (For OIS, specifically select the wide-angle camera; the telephoto camera does not support optical image stabilization.)

In iOS 11, you can use the dual camera to capture depth maps as well as color imagery. See `AVCapturePhotoOutput` and `AVCaptureDepthDataOutput`.

TrueDepth Camera

The front-facing TrueDepth camera combines a high-resolution color camera with an infrared camera and structured light projector to create a single capture device capable of depth sensing as well as color imaging.

Use the following technologies to take advantage of high-level features provided by the TrueDepth camera:

- ARKit: Create augmented reality experiences that interact with the user’s face in the front-facing camera image, or create animated characters whose face movements follow the user’s (as seen in the Animoji iMessage app).
- LocalAuthentication: Authenticate the user with facial biometrics.

The AVFoundation framework provides two ways to access the TrueDepth camera:

- Selecting the front-facing camera with the `AVCaptureDeviceTypeBuiltInWideAngleCamera` device type results in a capture device representing only the color camera component of the TrueDepth camera. This capture device is functionally equivalent to the front-facing cameras on other iOS devices, offering both photo and video capture.
- In iOS 11.1 and later, selecting the front-facing camera with the `AVCaptureDeviceTypeBuiltInTrueDepthCamera` device type returns a capture device representing the full capabilities of the TrueDepth camera. When you run a capture session using this device, you can use features of the `AVCapturePhotoOutput` and `AVCaptureDepthDataOutput` classes to enable capture of depth maps along with or instead of color imagery.

iOS Device Capture Format Specifications

The tables below list all of the supported `AVCaptureDeviceFormat` configurations for recent iPhone cameras in iOS 11. For an explanation of the data in each table column, see Table 4-3.

- iPhone 8, iPhone 8 Plus, and iPhone X: Table 4-4, Table 4-5, Table 4-6, Table 4-7, Table 4-8
- iPhone 7 and iPhone 7 Plus: Table 4-9, Table 4-10, Table 4-11, Table 4-12
- iPhone 6s and iPhone 6s Plus: Table 4-13, Table 4-14, Table 4-15
- iPhone 6 and iPhone 6 Plus: Table 4-16, Table 4-17
- iPhone SE: Table 4-18, Table 4-19
- iPad Pro (9.7-inch): Table 4-25, Table 4-26

Table 4-3 Key to Device Capture Format Tables

Column Name	Details
Type	The media subtype identifier for the format.
Dimensions	The pixel dimensions of captured video.
FPS	Frames Per Second: The range of video capture rates supported by the format.
HRSI	High Resolution Still Image: The pixel dimensions of still images that can be captured during video recording. (See High Resolution Still Images During Video Capture.)
FOV	Field Of View: The horizontal view angle for captured video.

Binned	Indicates whether the format produces video data in a binned format (a pixel-combining process that results in greater low-light sensitivity at the cost of reduced resolution).
VIS	Video Image Stabilization options supported: S – Standard C – Cinematic
Zoom	The maximum zoom factor for the format.
Upscales	The threshold at which increasing zoom factor causes the captured image to be upscaled (reducing image quality).
AF	Auto Focus system supported: P – Phase detection (focus pixels; faster) C – Contrast detection (slower)
ISO	The range of ISO exposure values supported by the format.
SS	The range of shutter speeds (in seconds) supported by the format.
VHDR	Indicates whether the format supports video / streaming HDR capture. (See Single-Shot / Video HDR.)
Color	The widest-gamut color space the format supports for capture. (See Wide-Gamut Color Capture.)

Table 4–4 iPhone 8 / iPhone 8 Plus / iPhone X Back Camera

Type	Dimensions	FPS	HSR	FOV	Binned	VIS	Zoom	Upscale	AF	ISO	SS	VHDR	Color
420v	192 x 144	3–60	4032 x 3024	58.903	NO		189.00	21.00	P	22–1760	0.000020 – 0.333333	NO	sRGB
420f	192 x 144	3–60	4032 x 3024	58.903	NO		189.00	21.00	P	22–1760	0.000020 – 0.333333	NO	P3
420v	352 x 288	3–60	3696 x 3024	53.994	NO		189.00	10.50	P	22–1760	0.000020 – 0.333333	NO	sRGB
420f	352 x 288	3–60	3696 x 3024	53.994	NO		189.00	10.50	P	22–1760	0.000020 – 0.333333	NO	P3
420v	480 x 360	3–60	4032 x 3024	58.903	NO		189.00	8.40	P	22–1760	0.000020 – 0.333333	NO	sRGB
420f	480 x 360	3–60	4032 x 3024	58.903	NO		189.00	8.40	P	22–1760	0.000020 – 0.333333	NO	P3
420v	640 x 480	3–60	4032 x 3024	58.903	NO		189.00	6.30	P	22–1760	0.000020 – 0.333333	NO	sRGB
420f	640 x 480	3–60	4032 x 3024	58.903	NO		189.00	6.30	P	22–1760	0.000020 – 0.333333	NO	P3
420v	640 x 480	6–60	2016 x 1512	56.205	YES		94.50	3.15	C	22–1760	0.000011 – 0.166666	NO	sRGB
420f	640 x 480	6–60	2016 x 1512	56.205	YES		94.50	3.15	C	22–1760	0.000011 – 0.166666	NO	P3
420v	960 x 540	3–60	4224 x 2376	60.983	NO	S	135.00	4.00	P	22–880	0.000020 – 0.333333	NO	sRGB
420f	960 x 540	3–60	4224 x 2376	60.983	NO	S	135.00	4.00	P	22–880	0.000020 – 0.333333	NO	P3

420v	1280 x 720	3-30	4224 x 2376	60.983	NO	SC	24.00	3.00	P	22-880	0.000020 - 0.333333	NO	sRGB
420f	1280 x 720	3-30	4224 x 2376	60.983	NO	SC	24.00	3.00	P	22-880	0.000020 - 0.333333	NO	P3
420v	1280 x 720	3-60	4224 x 2376	60.983	NO	SC	24.00	3.00	P	22-880	0.000020 - 0.333333	NO	sRGB
420f	1280 x 720	3-60	4224 x 2376	60.983	NO	SC	24.00	3.00	P	22-880	0.000020 - 0.333333	NO	P3
420v	1280 x 720	6-60		60.983	YES	SC	61.88	1.50	C	22-880	0.000011 - 0.166666	NO	sRGB
420f	1280 x 720	6-60		60.983	YES	SC	61.88	1.50	C	22-880	0.000011 - 0.166666	NO	P3
420v	1280 x 720	6-240		60.983	YES	S	67.50	1.50	C	22-880	0.000011 - 0.166666	NO	sRGB
420f	1280 x 720	6-240		60.983	YES	S	67.50	1.50	C	22-880	0.000011 - 0.166666	NO	P3
420v	1440 x 1080	6-60	2016 x 1512	56.205	YES		94.50	1.40	C	22-1760	0.000011 - 0.166666	NO	sRGB
420f	1440 x 1080	6-60	2016 x 1512	56.205	YES		94.50	1.40	C	22-1760	0.000011 - 0.166666	NO	P3
420v	1920 x 1080	3-30	4224 x 2376	60.983	NO	SC	16.00	2.00	P	22-880	0.000020 - 0.333333	NO	sRGB
420f	1920 x 1080	3-30	4224 x 2376	60.983	NO	SC	16.00	2.00	P	22-880	0.000020 - 0.333333	NO	P3
420v	1920 x 1080	3-60	4224 x 2376	60.983	NO	SC	16.00	2.00	P	22-880	0.000020 - 0.333333	NO	sRGB
420f	1920 x 1080	3-60	4224 x 2376	60.983	NO	SC	16.00	2.00	P	22-880	0.000020 - 0.333333	NO	P3
420v	1920 x 1080	5-120		60.983	NO	S	135.00	2.00	P	22-880	0.000012 - 0.2	NO	sRGB
420f	1920 x 1080	5-120		60.983	NO	S	135.00	2.00	P	22-880	0.000012 - 0.2	NO	P3
420v	1920 x 1080	6-240		60.983	YES	S	67.50	1.00	C	22-880	0.000011 - 0.166666	NO	sRGB
420f	1920 x 1080	6-240		60.983	YES	S	67.50	1.00	C	22-880	0.000011 - 0.166666	NO	P3
420v	2592 x 1936	3-30	4032 x 3024	58.903	NO		189.00	1.56	P	22-2112	0.000020 - 0.333333	NO	sRGB
420f	2592 x 1936	3-30	4032 x 3024	58.903	NO		189.00	1.56	P	22-2112	0.000020 - 0.333333	NO	P3
420v	3264 x 2448	3-30	4032 x 3024	58.903	NO		189.00	1.24	P	22-2112	0.000020 - 0.333333	NO	sRGB
420f	3264 x 2448	3-30	4032 x 3024	58.903	NO		189.00	1.24	P	22-2112	0.000020 - 0.333333	NO	P3

420v	3840 x 2160	3-30		60.983	NO	S	9.00	1.00	P	22-880	0.000020 - 0.333333	NO	sRGB
420f	3840 x 2160	3-30		60.983	NO	S	9.00	1.00	P	22-880	0.000020 - 0.333333	NO	P3
420v	3840 x 2160	3-60		60.983	NO	S	135.00	1.00	P	22-880	0.000020 - 0.333333	NO	sRGB
420f	3840 x 2160	3-60		60.983	NO	S	135.00	1.00	P	22-880	0.000020 - 0.333333	NO	P3
420v	4032 x 3024	3-30	4032 x 3024	58.903	NO		189.00	1.00	P	22-2112	0.000020 - 0.333333	NO	sRGB
420f	4032 x 3024	3-30	4032 x 3024	58.903	NO		189.00	1.00	P	22-2112	0.000020 - 0.333333	NO	P3

Table 4-5 iPhone 8 / iPhone 8 Plus / iPhone X Front Camera

Type	Dimensions	FPS	HRSI	FOV	Binned	VIS	Zoom	Upscale	AF	ISO	SS	VHDR	Color
420v	192 x 144	2-30	3088 x 2320	56.559	NO		145.00	16.08		19-1824	0.000013 - 0.5	NO	sRGB
420f	192 x 144	2-30	3088 x 2320	56.559	NO		145.00	16.08		19-1824	0.000013 - 0.5	NO	P3
420v	352 x 288	2-30	2836 x 2320	51.943	NO		145.00	8.06		19-1824	0.000013 - 0.5	NO	sRGB
420f	352 x 288	2-30	2836 x 2320	51.943	NO		145.00	8.06		19-1824	0.000013 - 0.5	NO	P3
420v	480 x 360	2-30	3088 x 2320	56.559	NO		145.00	6.43		19-1824	0.000013 - 0.5	NO	sRGB
420f	480 x 360	2-30	3088 x 2320	56.559	NO		145.00	6.43		19-1824	0.000013 - 0.5	NO	P3
420v	640 x 480	2-30	3088 x 2320	56.559	NO		145.00	4.82		19-1824	0.000013 - 0.5	NO	sRGB
420f	640 x 480	2-30	3088 x 2320	56.559	NO		145.00	4.82		19-1824	0.000013 - 0.5	NO	P3
420v	640 x 480	2-60	1440 x 1080	42.612	YES		67.50	2.25		19-1824	0.000013 - 0.5	NO	sRGB
420f	640 x 480	2-60	1440 x 1080	42.612	YES		67.50	2.25		19-1824	0.000013 - 0.5	NO	P3
420v	960 x 540	2-30	3840 x 2160	67.564	NO		135.00	4.00		19-1824	0.000013 - 0.5	NO	sRGB
420f	960 x 540	2-30	3840 x 2160	67.564	NO		135.00	4.00		19-1824	0.000013 - 0.5	NO	P3
420v	1280 x 720	2-30	3840 x 2160	67.564	NO		135.00	3.00		19-1824	0.000013 - 0.5	NO	sRGB
420f	1280 x 720	2-30	3840 x 2160	67.564	NO		135.00	3.00		19-1824	0.000013 - 0.5	NO	P3

420v	1280 x 720	2-60	1920 x 1080	67.284	YES		67.50	1.50		19-1824	0.000013 - 0.5	NO	sRGB
420f	1280 x 720	2-60	1920 x 1080	67.284	YES		67.50	1.50		19-1824	0.000013 - 0.5	NO	P3
420v	1440 x 1080	2-60	1440 x 1080	42.612	YES		67.50	1.00		19-1824	0.000013 - 0.5	NO	sRGB
420f	1440 x 1080	2-60	1440 x 1080	42.612	YES		67.50	1.00		19-1824	0.000013 - 0.5	NO	P3
420v	1920 x 1080	2-30	3840 x 2160	67.564	NO		135.00	2.00		19-1824	0.000013 - 0.5	NO	sRGB
420f	1920 x 1080	2-30	3840 x 2160	67.564	NO		135.00	2.00		19-1824	0.000013 - 0.5	NO	P3
420v	3088 x 2320	2-30	3088 x 2320	56.559	NO		145.00	1.00		19-1824	0.000013 - 0.5	NO	sRGB
420f	3088 x 2320	2-30	3088 x 2320	56.559	NO		145.00	1.00		19-1824	0.000013 - 0.5	NO	P3

Table 4-6 iPhone 8 Plus / iPhone 10,3 Back Dual Camera

Type	Dimensions	FPS	HRSI	FOV	Binned	VIS	Zoom	Upscale	AF	ISO	SS	VHDR	Color
420v	192 x 144	3-60	4032 x 3024	58.903	NO		189.00	21.00	P	22-1760	0.000020 - 0.333333	NO	sRGB
420f	192 x 144	3-60	4032 x 3024	58.903	NO		189.00	21.00	P	22-1760	0.000020 - 0.333333	NO	P3
420v	352 x 288	3-60	3696 x 3024	53.994	NO		189.00	10.50	P	22-1760	0.000020 - 0.333333	NO	sRGB
420f	352 x 288	3-60	3696 x 3024	53.994	NO		189.00	10.50	P	22-1760	0.000020 - 0.333333	NO	P3
420v	480 x 360	3-60	4032 x 3024	58.903	NO		189.00	8.40	P	22-1760	0.000020 - 0.333333	NO	sRGB
420f	480 x 360	3-60	4032 x 3024	58.903	NO		189.00	8.40	P	22-1760	0.000020 - 0.333333	NO	P3
420v	640 x 480	3-60	4032 x 3024	58.903	NO		189.00	6.30	P	22-1760	0.000020 - 0.333333	NO	sRGB
420f	640 x 480	3-60	4032 x 3024	58.903	NO		189.00	6.30	P	22-1760	0.000020 - 0.333333	NO	P3
420v	640 x 480	6-60	2016 x 1512	56.205	YES		94.50	3.15	C	22-1760	0.000011 - 0.166666	NO	sRGB
420f	640 x 480	6-60	2016 x 1512	56.205	YES		94.50	3.15	C	22-1760	0.000011 - 0.166666	NO	P3
420v	960 x 540	3-60	4224 x 2376	60.983	NO	S	135.00	4.00	P	22-880	0.000020 - 0.333333	NO	sRGB
420f	960 x 540	3-60	4224 x 2376	60.983	NO	S	135.00	4.00	P	22-880	0.000020 - 0.333333	NO	P3

420v	1280 x 720	3-30	4224 x 2376	60.983	NO	SC	24.00	3.00	P	22-880	0.000020 - 0.333333	NO	sRGB
420f	1280 x 720	3-30	4224 x 2376	60.983	NO	SC	24.00	3.00	P	22-880	0.000020 - 0.333333	NO	P3
420v	1280 x 720	3-60	4224 x 2376	60.983	NO	SC	24.00	3.00	P	22-880	0.000020 - 0.333333	NO	sRGB
420f	1280 x 720	3-60	4224 x 2376	60.983	NO	SC	24.00	3.00	P	22-880	0.000020 - 0.333333	NO	P3
420v	1280 x 720	6-60		60.983	YES	SC	61.88	1.50	C	22-880	0.000011 - 0.166666	NO	sRGB
420f	1280 x 720	6-60		60.983	YES	SC	61.88	1.50	C	22-880	0.000011 - 0.166666	NO	P3
420v	1440 x 1080	6-60	2016 x 1512	56.205	YES		94.50	1.40	C	22-1760	0.000011 - 0.166666	NO	sRGB
420f	1440 x 1080	6-60	2016 x 1512	56.205	YES		94.50	1.40	C	22-1760	0.000011 - 0.166666	NO	P3
420v	1920 x 1080	3-30	4224 x 2376	60.983	NO	SC	16.00	2.00	P	22-880	0.000020 - 0.333333	NO	sRGB
420f	1920 x 1080	3-30	4224 x 2376	60.983	NO	SC	16.00	2.00	P	22-880	0.000020 - 0.333333	NO	P3
420v	1920 x 1080	3-60	4224 x 2376	60.983	NO	SC	16.00	2.00	P	22-880	0.000020 - 0.333333	NO	sRGB
420f	1920 x 1080	3-60	4224 x 2376	60.983	NO	SC	16.00	2.00	P	22-880	0.000020 - 0.333333	NO	P3
420v	2592 x 1936	3-30	4032 x 3024	58.903	NO		189.00	1.56	P	22-2112	0.000020 - 0.333333	NO	sRGB
420f	2592 x 1936	3-30	4032 x 3024	58.903	NO		189.00	1.56	P	22-2112	0.000020 - 0.333333	NO	P3
420v	3264 x 2448	3-30	4032 x 3024	58.903	NO		189.00	1.24	P	22-2112	0.000020 - 0.333333	NO	sRGB
420f	3264 x 2448	3-30	4032 x 3024	58.903	NO		189.00	1.24	P	22-2112	0.000020 - 0.333333	NO	P3
420v	3840 x 2160	3-30		60.983	NO	S	9.00	1.00	P	22-880	0.000020 - 0.333333	NO	sRGB
420f	3840 x 2160	3-30		60.983	NO	S	9.00	1.00	P	22-880	0.000020 - 0.333333	NO	P3
420v	4032 x 3024	3-30	4032 x 3024	58.903	NO		189.00	1.00	P	22-2112	0.000020 - 0.333333	NO	sRGB
420f	4032 x 3024	3-30	4032 x 3024	58.903	NO		189.00	1.00	P	22-2112	0.000020 - 0.333333	NO	P3

Table 4-7 iPhone 8 Plus Back Telephoto Camera

Type	Dimensions	FPS	HRSI	FOV	Binned	VIS	Zoom	Upscale	AF	ISO	SS	VHDR	Color

420v	192 x 144	3-60	4032 x 3024	32.490	NO		189.00	21.00	P	20-1280	0.000020 - 0.333333	NO	sRGB
420f	192 x 144	3-60	4032 x 3024	32.490	NO		189.00	21.00	P	20-1280	0.000020 - 0.333333	NO	P3
420v	352 x 288	3-60	3696 x 3024	29.782	NO		189.00	10.50	P	20-1280	0.000020 - 0.333333	NO	sRGB
420f	352 x 288	3-60	3696 x 3024	29.782	NO		189.00	10.50	P	20-1280	0.000020 - 0.333333	NO	P3
420v	480 x 360	3-60	4032 x 3024	32.490	NO		189.00	8.40	P	20-1280	0.000020 - 0.333333	NO	sRGB
420f	480 x 360	3-60	4032 x 3024	32.490	NO		189.00	8.40	P	20-1280	0.000020 - 0.333333	NO	P3
420v	640 x 480	3-60	4032 x 3024	32.490	NO		189.00	6.30	P	20-1280	0.000020 - 0.333333	NO	sRGB
420f	640 x 480	3-60	4032 x 3024	32.490	NO		189.00	6.30	P	20-1280	0.000020 - 0.333333	NO	P3
420v	640 x 480	6-60	2016 x 1512	30.999	YES		94.50	3.15	C	20-1280	0.000011 - 0.166666	NO	sRGB
420f	640 x 480	6-60	2016 x 1512	30.999	YES		94.50	3.15	C	20-1280	0.000011 - 0.166666	NO	P3
420v	960 x 540	3-60	4224 x 2376	33.907	NO	S	135.00	4.00	P	20-640	0.000020 - 0.333333	NO	sRGB
420f	960 x 540	3-60	4224 x 2376	33.907	NO	S	135.00	4.00	P	20-640	0.000020 - 0.333333	NO	P3
420v	1280 x 720	3-30	4224 x 2376	33.907	NO	SC	24.00	3.00	P	20-640	0.000020 - 0.333333	NO	sRGB
420f	1280 x 720	3-30	4224 x 2376	33.907	NO	SC	24.00	3.00	P	20-640	0.000020 - 0.333333	NO	P3
420v	1280 x 720	3-60	4224 x 2376	33.907	NO	SC	24.00	3.00	P	20-640	0.000020 - 0.333333	NO	sRGB
420f	1280 x 720	3-60	4224 x 2376	33.907	NO	SC	24.00	3.00	P	20-640	0.000020 - 0.333333	NO	P3
420v	1280 x 720	6-60		33.907	YES	SC	61.88	1.50	C	20-640	0.000011 - 0.166666	NO	sRGB
420f	1280 x 720	6-60		33.907	YES	SC	61.88	1.50	C	20-640	0.000011 - 0.166666	NO	P3
420v	1280 x 720	6-240		33.907	YES	S	67.50	1.50	C	20-640	0.000011 - 0.166666	NO	sRGB
420f	1280 x 720	6-240		33.907	YES	S	67.50	1.50	C	20-640	0.000011 - 0.166666	NO	P3
420v	1440 x 1080	6-60	2016 x 1512	30.999	YES		94.50	1.40	C	20-1280	0.000011 - 0.166666	NO	sRGB
420f	1440 x 1080	6-60	2016 x 1512	30.999	YES		94.50	1.40	C	20-1280	0.000011 - 0.166666	NO	P3

420v	1920 x 1080	3-30	4224 x 2376	33.907	NO	SC	16.00	2.00	P	20-640	0.000020 - 0.333333	NO	sRGB
420f	1920 x 1080	3-30	4224 x 2376	33.907	NO	SC	16.00	2.00	P	20-640	0.000020 - 0.333333	NO	P3
420v	1920 x 1080	3-60	4224 x 2376	33.907	NO	SC	16.00	2.00	P	20-640	0.000020 - 0.333333	NO	sRGB
420f	1920 x 1080	3-60	4224 x 2376	33.907	NO	SC	16.00	2.00	P	20-640	0.000020 - 0.333333	NO	P3
420v	1920 x 1080	5-120		33.907	NO	S	135.00	2.00	P	20-640	0.000012 - 0.2	NO	sRGB
420f	1920 x 1080	5-120		33.907	NO	S	135.00	2.00	P	20-640	0.000012 - 0.2	NO	P3
420v	1920 x 1080	6-240		33.907	YES	S	67.50	1.00	C	20-640	0.000011 - 0.166666	NO	sRGB
420f	1920 x 1080	6-240		33.907	YES	S	67.50	1.00	C	20-640	0.000011 - 0.166666	NO	P3
420v	2592 x 1936	3-30	4032 x 3024	32.490	NO		189.00	1.56	P	20-1280	0.000020 - 0.333333	NO	sRGB
420f	2592 x 1936	3-30	4032 x 3024	32.490	NO		189.00	1.56	P	20-1280	0.000020 - 0.333333	NO	P3
420v	3264 x 2448	3-30	4032 x 3024	32.490	NO		189.00	1.24	P	20-1280	0.000020 - 0.333333	NO	sRGB
420f	3264 x 2448	3-30	4032 x 3024	32.490	NO		189.00	1.24	P	20-1280	0.000020 - 0.333333	NO	P3
420v	3840 x 2160	3-30		33.907	NO	S	9.00	1.00	P	20-640	0.000020 - 0.333333	NO	sRGB
420f	3840 x 2160	3-30		33.907	NO	S	9.00	1.00	P	20-640	0.000020 - 0.333333	NO	P3
420v	3840 x 2160	3-60		33.907	NO	S	135.00	1.00	P	20-640	0.000020 - 0.333333	NO	sRGB
420f	3840 x 2160	3-60		33.907	NO	S	135.00	1.00	P	20-640	0.000020 - 0.333333	NO	P3
420v	4032 x 3024	3-30	4032 x 3024	32.490	NO		189.00	1.00	P	20-1280	0.000020 - 0.333333	NO	sRGB
420f	4032 x 3024	3-30	4032 x 3024	32.490	NO		189.00	1.00	P	20-1280	0.000020 - 0.333333	NO	P3

Table 4-8 iPhone X Back Telephoto Camera

Type	Dimensions	FPS	HSR	FOV	Binned	VIS	Zoom	Upscale	AF	ISO	SS	VHDR	Color
420v	192 x 144	3-60	4032 x 3024	32.411	NO		189.00	21.00	P	15-960	0.000020 - 0.333333	NO	sRGB
420f	192 x 144	3-60	4032 x 3024	32.411	NO		189.00	21.00	P	15-960	0.000020 - 0.333333	NO	P3

420v	352 x 288	3-60	3696 x 3024	29.710	NO		189.00	10.50	P	15-960	0.000020 - 0.333333	NO	sRGB
420f	352 x 288	3-60	3696 x 3024	29.710	NO		189.00	10.50	P	15-960	0.000020 - 0.333333	NO	P3
420v	480 x 360	3-60	4032 x 3024	32.411	NO		189.00	8.40	P	15-960	0.000020 - 0.333333	NO	sRGB
420f	480 x 360	3-60	4032 x 3024	32.411	NO		189.00	8.40	P	15-960	0.000020 - 0.333333	NO	P3
420v	640 x 480	3-60	4032 x 3024	32.411	NO		189.00	6.30	P	15-960	0.000020 - 0.333333	NO	sRGB
420f	640 x 480	3-60	4032 x 3024	32.411	NO		189.00	6.30	P	15-960	0.000020 - 0.333333	NO	P3
420v	640 x 480	6-60	2016 x 1512	30.924	YES		94.50	3.15	C	15-960	0.000011 - 0.166666	NO	sRGB
420f	640 x 480	6-60	2016 x 1512	30.924	YES		94.50	3.15	C	15-960	0.000011 - 0.166666	NO	P3
420v	960 x 540	3-60	4224 x 2376	33.825	NO	S	135.00	4.00	P	15-480	0.000020 - 0.333333	NO	sRGB
420f	960 x 540	3-60	4224 x 2376	33.825	NO	S	135.00	4.00	P	15-480	0.000020 - 0.333333	NO	P3
420v	1280 x 720	3-30	4224 x 2376	33.825	NO	SC	24.00	3.00	P	15-480	0.000020 - 0.333333	NO	sRGB
420f	1280 x 720	3-30	4224 x 2376	33.825	NO	SC	24.00	3.00	P	15-480	0.000020 - 0.333333	NO	P3
420v	1280 x 720	3-60	4224 x 2376	33.825	NO	SC	24.00	3.00	P	15-480	0.000020 - 0.333333	NO	sRGB
420f	1280 x 720	3-60	4224 x 2376	33.825	NO	SC	24.00	3.00	P	15-480	0.000020 - 0.333333	NO	P3
420v	1280 x 720	6-60		33.825	YES	SC	61.88	1.50	C	15-480	0.000011 - 0.166666	NO	sRGB
420f	1280 x 720	6-60		33.825	YES	SC	61.88	1.50	C	15-480	0.000011 - 0.166666	NO	P3
420v	1280 x 720	6-240		33.825	YES	S	67.50	1.50	C	15-480	0.000011 - 0.166666	NO	sRGB
420f	1280 x 720	6-240		33.825	YES	S	67.50	1.50	C	15-480	0.000011 - 0.166666	NO	P3
420v	1440 x 1080	6-60	2016 x 1512	30.924	YES		94.50	1.40	C	15-960	0.000011 - 0.166666	NO	sRGB
420f	1440 x 1080	6-60	2016 x 1512	30.924	YES		94.50	1.40	C	15-960	0.000011 - 0.166666	NO	P3
420v	1920 x 1080	3-30	4224 x 2376	33.825	NO	SC	16.00	2.00	P	15-480	0.000020 - 0.333333	NO	sRGB
420f	1920 x 1080	3-30	4224 x 2376	33.825	NO	SC	16.00	2.00	P	15-480	0.000020 - 0.333333	NO	P3

420v	1920 x 1080	3-60	4224 x 2376	33.825	NO	SC	16.00	2.00	P	15-480	0.000020 – 0.333333	NO	sRGB
420f	1920 x 1080	3-60	4224 x 2376	33.825	NO	SC	16.00	2.00	P	15-480	0.000020 – 0.333333	NO	P3
420v	1920 x 1080	5-120		33.825	NO	S	135.00	2.00	P	15-480	0.000012 – 0.2	NO	sRGB
420f	1920 x 1080	5-120		33.825	NO	S	135.00	2.00	P	15-480	0.000012 – 0.2	NO	P3
420v	1920 x 1080	6-240		33.825	YES	S	67.50	1.00	C	15-480	0.000011 – 0.166666	NO	sRGB
420f	1920 x 1080	6-240		33.825	YES	S	67.50	1.00	C	15-480	0.000011 – 0.166666	NO	P3
420v	2592 x 1936	3-30	4032 x 3024	32.411	NO		189.00	1.56	P	15-960	0.000020 – 0.333333	NO	sRGB
420f	2592 x 1936	3-30	4032 x 3024	32.411	NO		189.00	1.56	P	15-960	0.000020 – 0.333333	NO	P3
420v	3264 x 2448	3-30	4032 x 3024	32.411	NO		189.00	1.24	P	15-960	0.000020 – 0.333333	NO	sRGB
420f	3264 x 2448	3-30	4032 x 3024	32.411	NO		189.00	1.24	P	15-960	0.000020 – 0.333333	NO	P3
420v	3840 x 2160	3-30		33.825	NO	S	9.00	1.00	P	15-480	0.000020 – 0.333333	NO	sRGB
420f	3840 x 2160	3-30		33.825	NO	S	9.00	1.00	P	15-480	0.000020 – 0.333333	NO	P3
420v	3840 x 2160	3-60		33.825	NO	S	135.00	1.00	P	15-480	0.000020 – 0.333333	NO	sRGB
420f	3840 x 2160	3-60		33.825	NO	S	135.00	1.00	P	15-480	0.000020 – 0.333333	NO	P3
420v	4032 x 3024	3-30	4032 x 3024	32.411	NO		189.00	1.00	P	15-960	0.000020 – 0.333333	NO	sRGB
420f	4032 x 3024	3-30	4032 x 3024	32.411	NO		189.00	1.00	P	15-960	0.000020 – 0.333333	NO	P3

Table 4-9 iPhone 7 Back Camera / iPhone 7 Plus Back (Wide-Angle) Camera

Type	Dimensions	FPS	HRSI	FOV	Binned	VIS	Zoom	Upscale	AF	ISO	SS	VHDR	Color
420v	192 x 144	3-30	4032 x 3024	58.975	NO		189.00	21.00	P	22-1408	0.000005 – 0.333333	NO	sRGB
420f	192 x 144	3-30	4032 x 3024	58.975	NO		189.00	21.00	P	22-1408	0.000005 – 0.333333	NO	P3
420v	352 x 288	3-30	3696 x 3024	54.060	NO		189.00	10.50	P	22-1408	0.000005 – 0.333333	NO	sRGB
420f	352 x 288	3-30	3696 x 3024	54.060	NO		189.00	10.50	P	22-1408	0.000005 – 0.333333	NO	P3

420v	480 x 360	3-30	4032 x 3024	58.975	NO		189.00	8.40	P	22-1408	0.000005 - 0.333333	NO	sRGB
420f	480 x 360	3-30	4032 x 3024	58.975	NO		189.00	8.40	P	22-1408	0.000005 - 0.333333	NO	P3
420v	640 x 480	3-30	4032 x 3024	58.975	NO		189.00	6.30	P	22-1408	0.000005 - 0.333333	NO	sRGB
420f	640 x 480	3-30	4032 x 3024	58.975	NO		189.00	6.30	P	22-1408	0.000005 - 0.333333	NO	P3
420v	960 x 540	3-60	4096 x 2304	59.680	NO	S	130.88	3.88	P	22-704	0.000005 - 0.333333	NO	sRGB
420f	960 x 540	3-60	4096 x 2304	59.680	NO	S	130.88	3.88	P	22-704	0.000005 - 0.333333	NO	P3
420v	1280 x 720	3-60	4096 x 2304	59.680	NO	SC	120.00	2.91	P	22-704	0.000005 - 0.333333	NO	sRGB
420f	1280 x 720	3-60	4096 x 2304	59.680	NO	SC	120.00	2.91	P	22-704	0.000005 - 0.333333	NO	P3
420v	1280 x 720	6-240		59.680	YES	S	65.50	1.45	C	22-704	0.000002 - 0.166667	NO	sRGB
420f	1280 x 720	6-240		59.680	YES	S	65.50	1.45	C	22-704	0.000002 - 0.166667	NO	P3
420v	1920 x 1080	3-30	4096 x 2304	59.680	NO	SC	16.00	1.94	P	22-704	0.000005 - 0.333333	NO	sRGB
420f	1920 x 1080	3-30	4096 x 2304	59.680	NO	SC	16.00	1.94	P	22-704	0.000005 - 0.333333	NO	P3
420v	1920 x 1080	3-60	4096 x 2304	59.680	NO	SC	16.00	1.94	P	22-704	0.000005 - 0.333333	NO	sRGB
420f	1920 x 1080	3-60	4096 x 2304	59.680	NO	SC	16.00	1.94	P	22-704	0.000005 - 0.333333	NO	P3
420v	1920 x 1080	6-120		59.680	YES	S	65.50	1.00	C	22-704	0.000002 - 0.166667	NO	sRGB
420f	1920 x 1080	6-120		59.680	YES	S	65.50	1.00	C	22-704	0.000002 - 0.166667	NO	P3
420v	2592 x 1936	3-30	4032 x 3024	58.986	NO		189.00	1.56	P	22-1760	0.000005 - 0.333333	NO	sRGB
420f	2592 x 1936	3-30	4032 x 3024	58.986	NO		189.00	1.56	P	22-1760	0.000005 - 0.333333	NO	P3
420v	3264 x 2448	3-30	4032 x 3024	58.986	NO		189.00	1.24	P	22-1760	0.000005 - 0.333333	NO	sRGB
420f	3264 x 2448	3-30	4032 x 3024	58.986	NO		189.00	1.24	P	22-1760	0.000005 - 0.333333	NO	P3
420v	3840 x 2160	3-30		59.680	NO	S	130.88	1.00	P	22-704	0.000005 - 0.333333	NO	sRGB
420f	3840 x 2160	3-30		59.680	NO	S	130.88	1.00	P	22-704	0.000005 - 0.333333	NO	P3

420v	4032 x 3024	3-30		58.986	NO		189.00	1.00	P	22-1760	0.000005 - 0.333333	NO	sRGB
420f	4032 x 3024	3-30		58.986	NO		189.00	1.00	P	22-1760	0.000005 - 0.333333	NO	P3

Table 4-10 iPhone 7 Plus Back Telephoto Camera

Type	Dimensions	FPS	HSI	FOV	Binned	VIS	Zoom	Upscale	AF	ISO	SS	VHDR	Color
420v	192 x 144	3-30	4032 x 3024	32.796	NO		189.00	21.00	P	19-1216	0.000005 - 0.333333	NO	sRGB
420f	192 x 144	3-30	4032 x 3024	32.796	NO		189.00	21.00	P	19-1216	0.000005 - 0.333333	NO	P3
420v	352 x 288	3-30	3696 x 3024	30.063	NO		189.00	10.50	P	19-1216	0.000005 - 0.333333	NO	sRGB
420f	352 x 288	3-30	3696 x 3024	30.063	NO		189.00	10.50	P	19-1216	0.000005 - 0.333333	NO	P3
420v	480 x 360	3-30	4032 x 3024	32.796	NO		189.00	8.40	P	19-1216	0.000005 - 0.333333	NO	sRGB
420f	480 x 360	3-30	4032 x 3024	32.796	NO		189.00	8.40	P	19-1216	0.000005 - 0.333333	NO	P3
420v	640 x 480	3-30	4032 x 3024	32.796	NO		189.00	6.30	P	19-1216	0.000005 - 0.333333	NO	sRGB
420f	640 x 480	3-30	4032 x 3024	32.796	NO		189.00	6.30	P	19-1216	0.000005 - 0.333333	NO	P3
420v	960 x 540	3-60	4096 x 2304	33.280	NO	S	130.88	3.88	P	19-608	0.000005 - 0.333333	NO	sRGB
420f	960 x 540	3-60	4096 x 2304	33.280	NO	S	130.88	3.88	P	19-608	0.000005 - 0.333333	NO	P3
420v	1280 x 720	3-60	4096 x 2304	33.280	NO	SC	120.00	2.91	P	19-608	0.000005 - 0.333333	NO	sRGB
420f	1280 x 720	3-60	4096 x 2304	33.280	NO	SC	120.00	2.91	P	19-608	0.000005 - 0.333333	NO	P3
420v	1280 x 720	6-240		33.280	YES	S	65.50	1.45	C	19-608	0.000002 - 0.166667	NO	sRGB
420f	1280 x 720	6-240		33.280	YES	S	65.50	1.45	C	19-608	0.000002 - 0.166667	NO	P3
420v	1920 x 1080	3-30	4096 x 2304	33.280	NO	SC	16.00	1.94	P	19-608	0.000005 - 0.333333	NO	sRGB
420f	1920 x 1080	3-30	4096 x 2304	33.280	NO	SC	16.00	1.94	P	19-608	0.000005 - 0.333333	NO	P3
420v	1920 x 1080	3-60	4096 x 2304	33.280	NO	SC	16.00	1.94	P	19-608	0.000005 - 0.333333	NO	sRGB
420f	1920 x 1080	3-60	4096 x 2304	33.280	NO	SC	16.00	1.94	P	19-608	0.000005 - 0.333333	NO	P3

420v	1920 x 1080	6-120		33.280	YES	S	65.50	1.00	C	19-608	0.000002 – 0.166667	NO	sRGB
420f	1920 x 1080	6-120		33.280	YES	S	65.50	1.00	C	19-608	0.000002 – 0.166667	NO	P3
420v	2592 x 1936	3-30	4032 x 3024	32.804	NO		189.00	1.56	P	19-1216	0.000005 – 0.333333	NO	sRGB
420f	2592 x 1936	3-30	4032 x 3024	32.804	NO		189.00	1.56	P	19-1216	0.000005 – 0.333333	NO	P3
420v	3264 x 2448	3-30	4032 x 3024	32.804	NO		189.00	1.24	P	19-1216	0.000005 – 0.333333	NO	sRGB
420f	3264 x 2448	3-30	4032 x 3024	32.804	NO		189.00	1.24	P	19-1216	0.000005 – 0.333333	NO	P3
420v	3840 x 2160	3-30		33.280	NO	S	130.88	1.00	P	19-608	0.000005 – 0.333333	NO	sRGB
420f	3840 x 2160	3-30		33.280	NO	S	130.88	1.00	P	19-608	0.000005 – 0.333333	NO	P3
420v	4032 x 3024	3-30		32.804	NO		189.00	1.00	P	19-1216	0.000005 – 0.333333	NO	sRGB
420f	4032 x 3024	3-30		32.804	NO		189.00	1.00	P	19-1216	0.000005 – 0.333333	NO	P3

Table 4–11 iPhone 7 Plus Back Dual Camera

Type	Dimensions	FPS	HRSI	FOV	Binned	VIS	Zoom	Upscale	AF	ISO	SS	VHDR	Color
420v	192 x 144	3-30	4032 x 3024	58.975	NO		189.00	21.00	P	22-1408	0.000005 – 0.333333	NO	sRGB
420f	192 x 144	3-30	4032 x 3024	58.975	NO		189.00	21.00	P	22-1408	0.000005 – 0.333333	NO	P3
420v	352 x 288	3-30	3696 x 3024	54.060	NO		189.00	10.50	P	22-1408	0.000005 – 0.333333	NO	sRGB
420f	352 x 288	3-30	3696 x 3024	54.060	NO		189.00	10.50	P	22-1408	0.000005 – 0.333333	NO	P3
420v	480 x 360	3-30	4032 x 3024	58.975	NO		189.00	8.40	P	22-1408	0.000005 – 0.333333	NO	sRGB
420f	480 x 360	3-30	4032 x 3024	58.975	NO		189.00	8.40	P	22-1408	0.000005 – 0.333333	NO	P3
420v	640 x 480	3-30	4032 x 3024	58.975	NO		189.00	6.30	P	22-1408	0.000005 – 0.333333	NO	sRGB
420f	640 x 480	3-30	4032 x 3024	58.975	NO		189.00	6.30	P	22-1408	0.000005 – 0.333333	NO	P3
420v	960 x 540	3-60	4096 x 2304	59.680	NO	S	130.88	3.88	P	22-704	0.000005 – 0.333333	NO	sRGB
420f	960 x 540	3-60	4096 x 2304	59.680	NO	S	130.88	3.88	P	22-704	0.000005 – 0.333333	NO	P3

420v	1280 x 720	3-60	4096 x 2304	59.680	NO	SC	120.00	2.91	P	22-704	0.000005 - 0.333333	NO	sRGB
420f	1280 x 720	3-60	4096 x 2304	59.680	NO	SC	120.00	2.91	P	22-704	0.000005 - 0.333333	NO	P3
420v	1920 x 1080	3-30	4096 x 2304	59.680	NO	SC	16.00	1.94	P	22-704	0.000005 - 0.333333	NO	sRGB
420f	1920 x 1080	3-30	4096 x 2304	59.680	NO	SC	16.00	1.94	P	22-704	0.000005 - 0.333333	NO	P3
420v	1920 x 1080	3-60	4096 x 2304	59.680	NO	SC	120.00	1.94	P	22-704	0.000005 - 0.333333	NO	sRGB
420f	1920 x 1080	3-60	4096 x 2304	59.680	NO	SC	120.00	1.94	P	22-704	0.000005 - 0.333333	NO	P3
420v	2592 x 1936	3-30	4032 x 3024	58.986	NO		189.00	1.56	P	22-1760	0.000005 - 0.333333	NO	sRGB
420f	2592 x 1936	3-30	4032 x 3024	58.986	NO		189.00	1.56	P	22-1760	0.000005 - 0.333333	NO	P3
420v	3264 x 2448	3-30	4032 x 3024	58.986	NO		189.00	1.24	P	22-1760	0.000005 - 0.333333	NO	sRGB
420f	3264 x 2448	3-30	4032 x 3024	58.986	NO		189.00	1.24	P	22-1760	0.000005 - 0.333333	NO	P3
420v	3840 x 2160	3-30		59.680	NO	S	130.88	1.00	P	22-704	0.000005 - 0.333333	NO	sRGB
420f	3840 x 2160	3-30		59.680	NO	S	130.88	1.00	P	22-704	0.000005 - 0.333333	NO	P3
420v	4032 x 3024	3-30		58.986	NO		189.00	1.00	P	22-1760	0.000005 - 0.333333	NO	sRGB
420f	4032 x 3024	3-30		58.986	NO		189.00	1.00	P	22-1760	0.000005 - 0.333333	NO	P3

Table 4-12 iPhone 7 / iPhone 7 Plus Front Camera

Type	Dimensions	FPS	HRSI	FOV	Binned	VIS	Zoom	Upscale	AF	ISO	SS	VHDR	Color
420v	192 x 144	2-30	3088 x 2320	54.201	NO		145.00	16.08		23-2208	0.000013 - 0.5	NO	sRGB
420f	192 x 144	2-30	3088 x 2320	54.201	NO		145.00	16.08		23-2208	0.000013 - 0.5	NO	P3
420v	352 x 288	2-30	2836 x 2320	49.778	NO		145.00	8.06		23-2208	0.000013 - 0.5	NO	sRGB
420f	352 x 288	2-30	2836 x 2320	49.778	NO		145.00	8.06		23-2208	0.000013 - 0.5	NO	P3
420v	480 x 360	2-30	3088 x 2320	54.201	NO		145.00	6.43		23-2208	0.000013 - 0.5	NO	sRGB
420f	480 x 360	2-30	3088 x 2320	54.201	NO		145.00	6.43		23-2208	0.000013 - 0.5	NO	P3

420v	640 x 480	2-30	3088 x 2320	54.201	NO		145.00	4.82		23-2208	0.000013 – 0.5	NO	sRGB
420f	640 x 480	2-30	3088 x 2320	54.201	NO		145.00	4.82		23-2208	0.000013 – 0.5	NO	P3
420v	960 x 540	2-30	3840 x 2160	64.164	NO		135.00	4.00		23-2208	0.000013 – 0.5	NO	sRGB
420f	960 x 540	2-30	3840 x 2160	64.164	NO		135.00	4.00		23-2208	0.000013 – 0.5	NO	P3
420v	1280 x 720	2-30	3840 x 2160	64.164	NO		135.00	3.00		23-2208	0.000013 – 0.5	NO	sRGB
420f	1280 x 720	2-30	3840 x 2160	64.164	NO		135.00	3.00		23-2208	0.000013 – 0.5	NO	P3
420v	1920 x 1080	2-30	3840 x 2160	64.164	NO		135.00	2.00		23-2208	0.000013 – 0.5	NO	sRGB
420f	1920 x 1080	2-30	3840 x 2160	64.164	NO		135.00	2.00		23-2208	0.000013 – 0.5	NO	P3
420v	3088 x 2320	2-30		54.201	NO		145.00	1.00		23-2208	0.000013 – 0.5	NO	sRGB
420f	3088 x 2320	2-30		54.201	NO		145.00	1.00		23-2208	0.000013 – 0.5	NO	P3

Table 4–13 iPhone 6s Back Camera

Type	Dimensions	FPS	HRSI	FOV	Binned	VIS	Zoom	Upscale	AF	ISO	SS	VHDR	Color
420v	192 x 144	3-30	4032 x 3024	57.702	NO		189.00	21.00	P	23-1472	0.000013 – 0.333333	NO	sRGB
420f	192 x 144	3-30	4032 x 3024	57.702	NO		189.00	21.00	P	23-1472	0.000013 – 0.333333	NO	sRGB
420v	352 x 288	3-30	3696 x 3024	52.893	NO		189.00	10.50	P	23-1472	0.000013 – 0.333333	NO	sRGB
420f	352 x 288	3-30	3696 x 3024	52.893	NO		189.00	10.50	P	23-1472	0.000013 – 0.333333	NO	sRGB
420v	480 x 360	3-30	4032 x 3024	57.702	NO		189.00	8.40	P	23-1472	0.000013 – 0.333333	NO	sRGB
420f	480 x 360	3-30	4032 x 3024	57.702	NO		189.00	8.40	P	23-1472	0.000013 – 0.333333	NO	sRGB
420v	640 x 480	3-30	4032 x 3024	57.702	NO		189.00	6.30	P	23-1472	0.000013 – 0.333333	NO	sRGB
420f	640 x 480	3-30	4032 x 3024	57.702	NO		189.00	6.30	P	23-1472	0.000013 –	NO	sRGB

											0.333333		
420v	960 x 540	3-30	4096 x 2304	58.632	NO	S	130.88	3.88	P	23-736	0.000013 - 0.333333	NO	sRGB
420f	960 x 540	3-30	4096 x 2304	58.632	NO	S	130.88	3.88	P	23-736	0.000013 - 0.333333	NO	sRGB
420v	960 x 540	3-60	4096 x 2304	58.632	NO	S	130.88	3.88	P	23-736	0.000013 - 0.333333	NO	sRGB
420f	960 x 540	3-60	4096 x 2304	58.632	NO	S	130.88	3.88	P	23-736	0.000013 - 0.333333	NO	sRGB
420v	1280 x 720	3-30	4096 x 2304	58.632	NO	SC	120.00	2.91	P	23-736	0.000013 - 0.333333	NO	sRGB
420f	1280 x 720	3-30	4096 x 2304	58.632	NO	SC	120.00	2.91	P	23-736	0.000013 - 0.333333	NO	sRGB
420v	1280 x 720	3-60	4096 x 2304	58.632	NO	SC	120.00	2.91	P	23-736	0.000013 - 0.333333	NO	sRGB
420f	1280 x 720	3-60	4096 x 2304	58.632	NO	SC	120.00	2.91	P	23-736	0.000013 - 0.333333	NO	sRGB
420v	1280 x 720	5-240		58.632	YES	S	65.50	1.45	C	23-736	0.000006 - 0.2	NO	sRGB
420f	1280 x 720	5-240		58.632	YES	S	65.50	1.45	C	23-736	0.000006 - 0.2	NO	sRGB
420v	1920 x 1080	3-30	4096 x 2304	58.632	NO	SC	4.00	1.94	P	23-736	0.000013 - 0.333333	NO	sRGB
420f	1920 x 1080	3-30	4096 x 2304	58.632	NO	SC	4.00	1.94	P	23-736	0.000013 - 0.333333	NO	sRGB
420v	1920 x 1080	3-60	4096 x 2304	58.632	NO	SC	4.00	1.94	P	23-736	0.000013 - 0.333333	NO	sRGB
420f	1920 x 1080	3-60	4096 x 2304	58.632	NO	SC	4.00	1.94	P	23-736	0.000013 - 0.333333	NO	sRGB
420v	1920 x 1080	3-120		58.632	YES	S	65.50	1.00	C	23-736	0.000013 - 0.333333	NO	sRGB
420f	1920 x 1080	3-120		58.632	YES	S	65.50	1.00	C	23-736	0.000013 - 0.333333	NO	sRGB
420v	2592 x 1936	3-30	4032 x 3024	57.716	NO		189.00	1.56	P	23-1840	0.000013 -	NO	sRGB

											0.333333		
420f	2592 x 1936	3-30	4032 x 3024	57.716	NO		189.00	1.56	P	23-1840	0.000013 - 0.333333	NO	sRGB
420v	3264 x 2448	3-30	4032 x 3024	57.716	NO		189.00	1.24	P	23-1840	0.000013 - 0.333333	NO	sRGB
420f	3264 x 2448	3-30	4032 x 3024	57.716	NO		189.00	1.24	P	23-1840	0.000013 - 0.333333	NO	sRGB
420v	3840 x 2160	3-30		58.632	NO	S	130.88	1.00	P	23-736	0.000013 - 0.333333	NO	sRGB
420f	3840 x 2160	3-30		58.632	NO	S	130.88	1.00	P	23-736	0.000013 - 0.333333	NO	sRGB
420v	4032 x 3024	3-30		57.716	NO		189.00	1.00	P	23-1840	0.000013 - 0.333333	NO	sRGB
420f	4032 x 3024	3-30		57.716	NO		189.00	1.00	P	23-1840	0.000013 - 0.333333	NO	sRGB

Table 4-14 iPhone 6s Plus Back Camera

Type	Dimensions	FPS	HRSI	FOV	Binned	VIS	Zoom	Upscale	AF	ISO	SS	VHDR	Color
420v	192 x 144	3-30	4032 x 3024	57.710	NO		189.00	21.00	P	23-1472	0.000013 - 0.333333	NO	sRGB
420f	192 x 144	3-30	4032 x 3024	57.710	NO		189.00	21.00	P	23-1472	0.000013 - 0.333333	NO	sRGB
420v	352 x 288	3-30	3696 x 3024	52.900	NO		189.00	10.50	P	23-1472	0.000013 - 0.333333	NO	sRGB
420f	352 x 288	3-30	3696 x 3024	52.900	NO		189.00	10.50	P	23-1472	0.000013 - 0.333333	NO	sRGB
420v	480 x 360	3-30	4032 x 3024	57.710	NO		189.00	8.40	P	23-1472	0.000013 - 0.333333	NO	sRGB
420f	480 x 360	3-30	4032 x 3024	57.710	NO		189.00	8.40	P	23-1472	0.000013 - 0.333333	NO	sRGB
420v	640 x 480	3-30	4032 x 3024	57.710	NO		189.00	6.30	P	23-1472	0.000013 - 0.333333	NO	sRGB
420f	640 x 480	3-30	4032 x 3024	57.710	NO		189.00	6.30	P	23-1472	0.000013 - 0.333333	NO	sRGB

											0.333333		
420v	960 x 540	3-30	4096 x 2304	58.640	NO	S	130.88	3.88	P	23-736	0.000013 - 0.333333	NO	sRGB
420f	960 x 540	3-30	4096 x 2304	58.640	NO	S	130.88	3.88	P	23-736	0.000013 - 0.333333	NO	sRGB
420v	960 x 540	3-60	4096 x 2304	58.640	NO	S	130.88	3.88	P	23-736	0.000013 - 0.333333	NO	sRGB
420f	960 x 540	3-60	4096 x 2304	58.640	NO	S	130.88	3.88	P	23-736	0.000013 - 0.333333	NO	sRGB
420v	1280 x 720	3-30	4096 x 2304	58.640	NO	SC	120.00	2.91	P	23-736	0.000013 - 0.333333	NO	sRGB
420f	1280 x 720	3-30	4096 x 2304	58.640	NO	SC	120.00	2.91	P	23-736	0.000013 - 0.333333	NO	sRGB
420v	1280 x 720	3-60	4096 x 2304	58.640	NO	SC	120.00	2.91	P	23-736	0.000013 - 0.333333	NO	sRGB
420f	1280 x 720	3-60	4096 x 2304	58.640	NO	SC	120.00	2.91	P	23-736	0.000013 - 0.333333	NO	sRGB
420v	1280 x 720	5-240		58.640	YES	S	65.50	1.45	C	23-736	0.000006 - 0.2	NO	sRGB
420f	1280 x 720	5-240		58.640	YES	S	65.50	1.45	C	23-736	0.000006 - 0.2	NO	sRGB
420v	1920 x 1080	3-30	4096 x 2304	58.640	NO	SC	4.00	1.94	P	23-736	0.000013 - 0.333333	NO	sRGB
420f	1920 x 1080	3-30	4096 x 2304	58.640	NO	SC	4.00	1.94	P	23-736	0.000013 - 0.333333	NO	sRGB
420v	1920 x 1080	3-60	4096 x 2304	58.640	NO	SC	4.00	1.94	P	23-736	0.000013 - 0.333333	NO	sRGB
420f	1920 x 1080	3-60	4096 x 2304	58.640	NO	SC	4.00	1.94	P	23-736	0.000013 - 0.333333	NO	sRGB
420v	1920 x 1080	3-120		58.640	YES	S	65.50	1.00	C	23-736	0.000013 - 0.333333	NO	sRGB
420f	1920 x 1080	3-120		58.640	YES	S	65.50	1.00	C	23-736	0.000013 - 0.333333	NO	sRGB
420v	2592 x 1936	3-30	4032 x 3024	57.724	NO		189.00	1.56	P	23-1840	0.000013 -	NO	sRGB

											0.333333		
420f	2592 x 1936	3-30	4032 x 3024	57.724	NO		189.00	1.56	P	23-1840	0.000013 - 0.333333	NO	sRGB
420v	3264 x 2448	3-30	4032 x 3024	57.724	NO		189.00	1.24	P	23-1840	0.000013 - 0.333333	NO	sRGB
420f	3264 x 2448	3-30	4032 x 3024	57.724	NO		189.00	1.24	P	23-1840	0.000013 - 0.333333	NO	sRGB
420v	3840 x 2160	3-30		58.640	NO	S	130.88	1.00	P	23-736	0.000013 - 0.333333	NO	sRGB
420f	3840 x 2160	3-30		58.640	NO	S	130.88	1.00	P	23-736	0.000013 - 0.333333	NO	sRGB
420v	4032 x 3024	3-30		57.724	NO		189.00	1.00	P	23-1840	0.000013 - 0.333333	NO	sRGB
420f	4032 x 3024	3-30		57.724	NO		189.00	1.00	P	23-1840	0.000013 - 0.333333	NO	sRGB

Table 4-15 iPhone 6s / iPhone 6s Plus Front Camera

Type	Dimensions	FPS	HRSI	FOV	Binned	VIS	Zoom	Upscale	AF	ISO	SS	VHDR	Color
420v	192 x 144	2-60		54.400	NO		60.00	6.67		34-2176	0.000013 - 0.5	YES	sRGB
420f	192 x 144	2-60		54.400	NO		60.00	6.67		34-2176	0.000013 - 0.5	YES	sRGB
420v	352 x 288	2-60		49.895	NO		60.00	3.33		34-2176	0.000013 - 0.5	YES	sRGB
420f	352 x 288	2-60		49.895	NO		60.00	3.33		34-2176	0.000013 - 0.5	YES	sRGB
420v	480 x 360	2-60		54.400	NO		60.00	2.67		34-2176	0.000013 - 0.5	YES	sRGB
420f	480 x 360	2-60		54.400	NO		60.00	2.67		34-2176	0.000013 - 0.5	YES	sRGB
420v	640 x 480	2-60		54.400	NO		60.00	2.00		34-2176	0.000013 - 0.5	YES	sRGB
420f	640 x 480	2-60		54.400	NO		60.00	2.00		34-2176	0.000013 - 0.5	YES	sRGB
420v	960 x 540	2-60		58.480	NO		48.50	1.43		34-2176	0.000013 - 0.5	YES	sRGB
420f	960 x 540	2-60		58.480	NO		48.50	1.43		34-2176	0.000013 - 0.5	YES	sRGB

420v	1280 x 720	2-60		58.480	NO		48.50	1.08		34-2176	0.000013 - 0.5	YES	sRGB
420f	1280 x 720	2-60		58.480	NO		48.50	1.08		34-2176	0.000013 - 0.5	YES	sRGB
420v	1280 x 960	2-60	2576 x 1932	54.400	NO		60.00	1.00		34-2176	0.000013 - 0.5	NO	sRGB
420f	1280 x 960	2-60	2576 x 1932	54.400	NO		60.00	1.00		34-2176	0.000013 - 0.5	NO	sRGB

Table 4-16 iPhone 6 / iPhone 6 Plus Back Camera

Type	Dimensions	FPS	HRSI	FOV	Binned	VIS	Zoom	Upscale	AF	ISO	SS	VHDR	Color
420v	192 x 144	2-30	3264 x 2448	58.040	NO		153.00	17.00	P	29-1856	0.000025 - 0.5	NO	sRGB
420f	192 x 144	2-30	3264 x 2448	58.040	NO		153.00	17.00	P	29-1856	0.000025 - 0.5	NO	sRGB
420v	352 x 288	2-30	2992 x 2448	53.203	NO		153.00	8.50	P	29-1856	0.000025 - 0.5	NO	sRGB
420f	352 x 288	2-30	2992 x 2448	53.203	NO		153.00	8.50	P	29-1856	0.000025 - 0.5	NO	sRGB
420v	480 x 360	2-30	3264 x 2448	58.040	NO		153.00	6.80	P	29-1856	0.000025 - 0.5	NO	sRGB
420f	480 x 360	2-30	3264 x 2448	58.040	NO		153.00	6.80	P	29-1856	0.000025 - 0.5	NO	sRGB
420v	640 x 480	2-30	3264 x 2448	58.040	NO		153.00	5.10	P	29-1856	0.000025 - 0.5	NO	sRGB
420f	640 x 480	2-30	3264 x 2448	58.040	NO		153.00	5.10	P	29-1856	0.000025 - 0.5	NO	sRGB
420v	960 x 540	2-30	3264 x 1836	58.040	NO	S	104.38	3.09	P	29-464	0.000025 - 0.5	YES	sRGB
420f	960 x 540	2-30	3264 x 1836	58.040	NO	S	104.38	3.09	P	29-464	0.000025 - 0.5	YES	sRGB
420v	1280 x 720	2-30	3264 x 1836	58.040	NO	SC	95.62	2.32	P	29-464	0.000025 - 0.5	YES	sRGB
420f	1280 x 720	2-30	3264 x 1836	58.040	NO	SC	95.62	2.32	P	29-464	0.000025 - 0.5	YES	sRGB
420v	1280 x 720	5-240		54.626	YES	S	49.12	1.09	C	29-928	0.000006 - 0.2	NO	sRGB
420f	1280 x 720	5-240		54.626	YES	S	49.12	1.09	C	29-928	0.000006 - 0.2	NO	sRGB
420v	1920 x 1080	2-30	3264 x 1836	58.040	NO	SC	95.62	1.55	P	29-464	0.000025 - 0.5	YES	sRGB
420f	1920 x 1080	2-30	3264 x 1836	58.040	NO	SC	95.62	1.55	P	29-464	0.000025 - 0.5	YES	sRGB

420v	1920 x 1080	2-60	3264 x 1836	58.040	NO	SC	95.62	1.55	P	29-464	0.000016 - 0.5	YES	sRGB
420f	1920 x 1080	2-60	3264 x 1836	58.040	NO	SC	95.62	1.55	P	29-464	0.000016 - 0.5	YES	sRGB
420v	2592 x 1936	2-30	3264 x 2448	58.040	NO		153.00	1.26	P	29-1856	0.000025 - 0.5	NO	sRGB
420f	2592 x 1936	2-30	3264 x 2448	58.040	NO		153.00	1.26	P	29-1856	0.000025 - 0.5	NO	sRGB
420v	3264 x 2448	2-30		58.040	NO		153.00	1.00	P	29-1856	0.000025 - 0.5	NO	sRGB
420f	3264 x 2448	2-30		58.040	NO		153.00	1.00	P	29-1856	0.000025 - 0.5	NO	sRGB

Table 4-17 iPhone 6 / iPhone 6 Plus Front Camera

Type	Dimensions	FPS	HRSI	FOV	Binned	VIS	Zoom	Upscale	AF	ISO	SS	VHDR	Color
420v	192 x 144	2-60		54.400	NO		60.00	6.67		34-2176	0.000013 - 0.5	YES	sRGB
420f	192 x 144	2-60		54.400	NO		60.00	6.67		34-2176	0.000013 - 0.5	YES	sRGB
420v	352 x 288	2-60		49.895	NO		60.00	3.33		34-2176	0.000013 - 0.5	YES	sRGB
420f	352 x 288	2-60		49.895	NO		60.00	3.33		34-2176	0.000013 - 0.5	YES	sRGB
420v	480 x 360	2-60		54.400	NO		60.00	2.67		34-2176	0.000013 - 0.5	YES	sRGB
420f	480 x 360	2-60		54.400	NO		60.00	2.67		34-2176	0.000013 - 0.5	YES	sRGB
420v	640 x 480	2-60		54.400	NO		60.00	2.00		34-2176	0.000013 - 0.5	YES	sRGB
420f	640 x 480	2-60		54.400	NO		60.00	2.00		34-2176	0.000013 - 0.5	YES	sRGB
420v	960 x 540	2-60		58.480	NO		48.50	1.43		34-2176	0.000013 - 0.5	YES	sRGB
420f	960 x 540	2-60		58.480	NO		48.50	1.43		34-2176	0.000013 - 0.5	YES	sRGB
420v	1280 x 720	2-60		58.480	NO		48.50	1.08		34-2176	0.000013 - 0.5	YES	sRGB
420f	1280 x 720	2-60		58.480	NO		48.50	1.08		34-2176	0.000013 - 0.5	YES	sRGB
420v	1280 x 960	2-60		54.400	NO		60.00	1.00		34-2176	0.000013 - 0.5	YES	sRGB
420f	1280 x 960	2-60		54.400	NO		60.00	1.00		34-2176	0.000013 - 0.5	YES	sRGB

Table 4-18 iPhone SE Back Camera

Type	Dimensions	FPS	HRSI	FOV	Binned	VIS	Zoom	Upscale	AF	ISO	SS	VHDR	Color
420v	192 x 144	3-30	4032 x 3024	57.702	NO		189.00	21.00	P	23-1472	0.000013 - 0.333333	NO	sRGB
420f	192 x 144	3-30	4032 x 3024	57.702	NO		189.00	21.00	P	23-1472	0.000013 - 0.333333	NO	sRGB

420v	352 x 288	3-30	3696 x 3024	52.893	NO		189.00	10.50	P	23-1472	0.000013 - 0.333333	NO	sRGB
420f	352 x 288	3-30	3696 x 3024	52.893	NO		189.00	10.50	P	23-1472	0.000013 - 0.333333	NO	sRGB
420v	480 x 360	3-30	4032 x 3024	57.702	NO		189.00	8.40	P	23-1472	0.000013 - 0.333333	NO	sRGB
420f	480 x 360	3-30	4032 x 3024	57.702	NO		189.00	8.40	P	23-1472	0.000013 - 0.333333	NO	sRGB
420v	640 x 480	3-30	4032 x 3024	57.702	NO		189.00	6.30	P	23-1472	0.000013 - 0.333333	NO	sRGB
420f	640 x 480	3-30	4032 x 3024	57.702	NO		189.00	6.30	P	23-1472	0.000013 - 0.333333	NO	sRGB
420v	960 x 540	3-30	4096 x 2304	58.632	NO	S	130.88	3.88	P	23-736	0.000013 - 0.333333	NO	sRGB
420f	960 x 540	3-30	4096 x 2304	58.632	NO	S	130.88	3.88	P	23-736	0.000013 - 0.333333	NO	sRGB
420v	960 x 540	3-60	4096 x 2304	58.632	NO	S	130.88	3.88	P	23-736	0.000013 - 0.333333	NO	sRGB
420f	960 x 540	3-60	4096 x 2304	58.632	NO	S	130.88	3.88	P	23-736	0.000013 - 0.333333	NO	sRGB
420v	1280 x 720	3-30	4096 x 2304	58.632	NO	SC	120.00	2.91	P	23-736	0.000013 - 0.333333	NO	sRGB
420f	1280 x 720	3-30	4096 x 2304	58.632	NO	SC	120.00	2.91	P	23-736	0.000013 - 0.333333	NO	sRGB
420v	1280 x 720	3-60	4096 x 2304	58.632	NO	SC	120.00	2.91	P	23-736	0.000013 - 0.333333	NO	sRGB
420f	1280 x 720	3-60	4096 x 2304	58.632	NO	SC	120.00	2.91	P	23-736	0.000013 - 0.333333	NO	sRGB
420v	1280 x 720	5-240		58.632	YES	S	65.50	1.45	C	23-736	0.000006 - 0.2	NO	sRGB
420f	1280 x 720	5-240		58.632	YES	S	65.50	1.45	C	23-736	0.000006 - 0.2	NO	sRGB
420v	1920 x 1080	3-30	4096 x 2304	58.632	NO	SC	4.00	1.94	P	23-736	0.000013 - 0.333333	NO	sRGB

420f	1920 x 1080	3-30	4096 x 2304	58.632	NO	SC	4.00	1.94	P	23-736	0.000013 - 0.333333	NO	sRGB
420v	1920 x 1080	3-60	4096 x 2304	58.632	NO	SC	4.00	1.94	P	23-736	0.000013 - 0.333333	NO	sRGB
420f	1920 x 1080	3-60	4096 x 2304	58.632	NO	SC	4.00	1.94	P	23-736	0.000013 - 0.333333	NO	sRGB
420v	1920 x 1080	3-120		58.632	YES	S	65.50	1.00	C	23-736	0.000013 - 0.333333	NO	sRGB
420f	1920 x 1080	3-120		58.632	YES	S	65.50	1.00	C	23-736	0.000013 - 0.333333	NO	sRGB
420v	2592 x 1936	3-30	4032 x 3024	57.716	NO		189.00	1.56	P	23-1840	0.000013 - 0.333333	NO	sRGB
420f	2592 x 1936	3-30	4032 x 3024	57.716	NO		189.00	1.56	P	23-1840	0.000013 - 0.333333	NO	sRGB
420v	3264 x 2448	3-30	4032 x 3024	57.716	NO		189.00	1.24	P	23-1840	0.000013 - 0.333333	NO	sRGB
420f	3264 x 2448	3-30	4032 x 3024	57.716	NO		189.00	1.24	P	23-1840	0.000013 - 0.333333	NO	sRGB
420v	3840 x 2160	3-30		58.632	NO	S	130.88	1.00	P	23-736	0.000013 - 0.333333	NO	sRGB
420f	3840 x 2160	3-30		58.632	NO	S	130.88	1.00	P	23-736	0.000013 - 0.333333	NO	sRGB
420v	4032 x 3024	3-30		57.716	NO		189.00	1.00	P	23-1840	0.000013 - 0.333333	NO	sRGB
420f	4032 x 3024	3-30		57.716	NO		189.00	1.00	P	23-1840	0.000013 - 0.333333	NO	sRGB

Table 4–19 iPhone SE Front Camera

Type	Dimensions	FPS	HRSI	FOV	Binned	VIS	Zoom	Upscale	AF	ISO	SS	VHDR	Color
420v	192 x 144	1–30		55.200	NO		60.00	6.67		47–1504	0.000031 – 1	NO	sRGB
420f	192 x 144	1–30		55.200	NO		60.00	6.67		47–1504	0.000031 – 1	NO	sRGB
420v	352 x 288	1–30		50.629	NO		60.00	3.33		47–1504	0.000031 – 1	NO	sRGB
420f	352 x 288	1–30		50.629	NO		60.00	3.33		47–1504	0.000031 – 1	NO	sRGB

420v	480 x 360	1–30		55.200	NO		60.00	2.67		47–1504	0.000031 – 1	NO	sRGB
420f	480 x 360	1–30		55.200	NO		60.00	2.67		47–1504	0.000031 – 1	NO	sRGB
420v	640 x 480	1–30		55.200	NO		60.00	2.00		47–1504	0.000031 – 1	NO	sRGB
420f	640 x 480	1–30		55.200	NO		60.00	2.00		47–1504	0.000031 – 1	NO	sRGB
420v	960 x 540	1–30		59.340	NO		48.50	1.43		47–1504	0.000031 – 1	NO	sRGB
420f	960 x 540	1–30		59.340	NO		48.50	1.43		47–1504	0.000031 – 1	NO	sRGB
420v	1280 x 720	1–30		59.340	NO		48.50	1.08		47–1504	0.000031 – 1	NO	sRGB
420f	1280 x 720	1–30		59.340	NO		48.50	1.08		47–1504	0.000031 – 1	NO	sRGB
420v	1280 x 960	1–30		55.200	NO		60.00	1.00		47–1504	0.000031 – 1	NO	sRGB
420f	1280 x 960	1–30		55.200	NO		60.00	1.00		47–1504	0.000031 – 1	NO	sRGB

Table 4–20 iPad Pro 12.9–inch (2nd generation) / iPad Pro 10.5–inch Back Camera

Type	Dimensions	FPS	HRSI	FOV	Binned	VIS	Zoom	Upscale	AF	ISO	SS	VHDR	Color
420v	192 x 144	3–30	4032 x 3024	58.975	NO		189.00	21.00	P	22–1408	0.000005 – 0.333333	NO	sRGB
420f	192 x 144	3–30	4032 x 3024	58.975	NO		189.00	21.00	P	22–1408	0.000005 – 0.333333	NO	P3
420v	352 x 288	3–30	3696 x 3024	54.060	NO		189.00	10.50	P	22–1408	0.000005 – 0.333333	NO	sRGB
420f	352 x 288	3–30	3696 x 3024	54.060	NO		189.00	10.50	P	22–1408	0.000005 – 0.333333	NO	P3
420v	480 x 360	3–30	4032 x 3024	58.975	NO		189.00	8.40	P	22–1408	0.000005 – 0.333333	NO	sRGB
420f	480 x 360	3–30	4032 x 3024	58.975	NO		189.00	8.40	P	22–1408	0.000005 – 0.333333	NO	P3
420v	640 x 480	3–30	4032 x 3024	58.975	NO		189.00	6.30	P	22–1408	0.000005 – 0.333333	NO	sRGB
420f	640 x 480	3–30	4032 x 3024	58.975	NO		189.00	6.30	P	22–1408	0.000005 – 0.333333	NO	P3
420v	960 x 540	3–60	4096 x 2304	59.680	NO	S	130.88	3.88	P	22–704	0.000005 – 0.333333	NO	sRGB
420f	960 x 540	3–60	4096 x 2304	59.680	NO	S	130.88	3.88	P	22–704	0.000005 – 0.333333	NO	P3
420v	1280 x 720	3–60	4096 x 2304	59.680	NO	SC	120.00	2.91	P	22–704	0.000005 – 0.333333	NO	sRGB
420f	1280 x 720	3–60	4096 x 2304	59.680	NO	SC	120.00	2.91	P	22–704	0.000005 – 0.333333	NO	P3
420v	1280 x 720	6–60		59.680	YES	SC	60.00	1.45	C	22–704	0.000002 – 0.166667	NO	sRGB
420f	1280 x 720	6–		59.680	YES	SC	60.00	1.45	C	22–	0.000002 – 0.166667	NO	P3

		60								704			
420v	1280 x 720	6-240		59.680	YES	S	65.50	1.45	C	22-704	0.000002 – 0.166667	NO	sRGB
420f	1280 x 720	6-240		59.680	YES	S	65.50	1.45	C	22-704	0.000002 – 0.166667	NO	P3
420v	1920 x 1080	3-30	4096 x 2304	59.680	NO	SC	16.00	1.94	P	22-704	0.000005 – 0.333333	NO	sRGB
420f	1920 x 1080	3-30	4096 x 2304	59.680	NO	SC	16.00	1.94	P	22-704	0.000005 – 0.333333	NO	P3
420v	1920 x 1080	3-60	4096 x 2304	59.680	NO	SC	16.00	1.94	P	22-704	0.000005 – 0.333333	NO	sRGB
420f	1920 x 1080	3-60	4096 x 2304	59.680	NO	SC	16.00	1.94	P	22-704	0.000005 – 0.333333	NO	P3
420v	1920 x 1080	6-120		59.680	YES	S	65.50	1.00	C	22-704	0.000002 – 0.166667	NO	sRGB
420f	1920 x 1080	6-120		59.680	YES	S	65.50	1.00	C	22-704	0.000002 – 0.166667	NO	P3
420v	2592 x 1936	3-30	4032 x 3024	58.986	NO		189.00	1.56	P	22-1760	0.000005 – 0.333333	NO	sRGB
420f	2592 x 1936	3-30	4032 x 3024	58.986	NO		189.00	1.56	P	22-1760	0.000005 – 0.333333	NO	P3
420v	3264 x 2448	3-30	4032 x 3024	58.986	NO		189.00	1.24	P	22-1760	0.000005 – 0.333333	NO	sRGB
420f	3264 x 2448	3-30	4032 x 3024	58.986	NO		189.00	1.24	P	22-1760	0.000005 – 0.333333	NO	P3
420v	3840 x 2160	3-30		59.680	NO	S	9.00	1.00	P	22-704	0.000005 – 0.333333	NO	sRGB
420f	3840 x 2160	3-30		59.680	NO	S	9.00	1.00	P	22-704	0.000005 – 0.333333	NO	P3
420v	4032 x 3024	3-30		58.986	NO		189.00	1.00	P	22-1760	0.000005 – 0.333333	NO	sRGB
420f	4032 x 3024	3-30		58.986	NO		189.00	1.00	P	22-1760	0.000005 – 0.333333	NO	P3

Table 4–21 iPad Pro 12.9–inch (2nd generation) / iPad Pro 10.5–inch Front Camera

Type	Dimensions	FPS	HRSI	FOV	Binned	VIS	Zoom	Upscale	AF	ISO	SS	VHDR	Color
420v	192 x 144	2-30	3088 x 2320	54.201	NO		145.00	16.08		23-2208	0.000013 – 0.5	NO	sRGB
420f	192 x 144	2-30	3088 x 2320	54.201	NO		145.00	16.08		23-2208	0.000013 – 0.5	NO	P3
420v	352 x 288	2-30	2836 x 2320	49.778	NO		145.00	8.06		23-2208	0.000013 – 0.5	NO	sRGB
420f	352 x 288	2-30	2836 x 2320	49.778	NO		145.00	8.06		23-2208	0.000013 – 0.5	NO	P3

420v	480 x 360	2-30	3088 x 2320	54.201	NO		145.00	6.43		23-2208	0.000013 – 0.5	NO	sRGB
420f	480 x 360	2-30	3088 x 2320	54.201	NO		145.00	6.43		23-2208	0.000013 – 0.5	NO	P3
420v	640 x 480	2-30	3088 x 2320	54.201	NO		145.00	4.82		23-2208	0.000013 – 0.5	NO	sRGB
420f	640 x 480	2-30	3088 x 2320	54.201	NO		145.00	4.82		23-2208	0.000013 – 0.5	NO	P3
420v	960 x 540	2-30	3840 x 2160	64.164	NO		135.00	4.00		23-2208	0.000013 – 0.5	NO	sRGB
420f	960 x 540	2-30	3840 x 2160	64.164	NO		135.00	4.00		23-2208	0.000013 – 0.5	NO	P3
420v	1280 x 720	2-30	3840 x 2160	64.164	NO		135.00	3.00		23-2208	0.000013 – 0.5	NO	sRGB
420f	1280 x 720	2-30	3840 x 2160	64.164	NO		135.00	3.00		23-2208	0.000013 – 0.5	NO	P3
420v	1920 x 1080	2-30	3840 x 2160	64.164	NO		135.00	2.00		23-2208	0.000013 – 0.5	NO	sRGB
420f	1920 x 1080	2-30	3840 x 2160	64.164	NO		135.00	2.00		23-2208	0.000013 – 0.5	NO	P3
420v	3088 x 2320	2-30	3088 x 2320	54.201	NO		145.00	1.00		23-2208	0.000013 – 0.5	NO	sRGB
420f	3088 x 2320	2-30	3088 x 2320	54.201	NO		145.00	1.00		23-2208	0.000013 – 0.5	NO	P3

Table 4–22 iPad (5th generation) / iPad Pro (12.9-inch) Back Camera

Type	Dimensions	FPS	HRSI	FOV	Binned	VIS	Zoom	Upscale	AF	ISO	SS	VHDR	Color
420v	192 x 144	2-30	3264 x 2448	54.267	NO		153.00	17.00	C	24-768	0.000024 – 0.5	NO	sRGB
420f	192 x 144	2-30	3264 x 2448	54.267	NO		153.00	17.00	C	24-768	0.000024 – 0.5	NO	sRGB
420v	352 x 288	2-30	2992 x 2448	49.745	NO		153.00	8.50	C	24-768	0.000024 – 0.5	NO	sRGB
420f	352 x 288	2-30	2992 x 2448	49.745	NO		153.00	8.50	C	24-768	0.000024 – 0.5	NO	sRGB
420v	480 x 360	2-30	3264 x 2448	54.267	NO		153.00	6.80	C	24-768	0.000024 – 0.5	NO	sRGB
420f	480 x 360	2-30	3264 x 2448	54.267	NO		153.00	6.80	C	24-768	0.000024 – 0.5	NO	sRGB
420v	640 x 480	2-30	3264 x 2448	54.267	NO		153.00	5.10	C	24-768	0.000024 – 0.5	NO	sRGB
420f	640 x 480	2-30	3264 x 2448	54.267	NO		153.00	5.10	C	24-768	0.000024 – 0.5	NO	sRGB

420v	960 x 540	2-30	3264 x 1836	54.267	NO	S	104.38	3.09	C	24-768	0.000024 – 0.5	NO	sRGB
420f	960 x 540	2-30	3264 x 1836	54.267	NO	S	104.38	3.09	C	24-768	0.000024 – 0.5	NO	sRGB
420v	1280 x 720	2-30	3264 x 1836	54.267	NO	SC	95.62	2.32	C	24-768	0.000024 – 0.5	NO	sRGB
420f	1280 x 720	2-30	3264 x 1836	54.267	NO	SC	95.62	2.32	C	24-768	0.000024 – 0.5	NO	sRGB
420v	1280 x 720	3-60		54.267	YES	SC	47.75	1.16	C	24-768	0.000025 – 0.333333	NO	sRGB
420f	1280 x 720	3-60		54.267	YES	SC	47.75	1.16	C	24-768	0.000025 – 0.333333	NO	sRGB
420v	1280 x 720	3-120		54.267	YES	S	52.12	1.16	C	24-768	0.000025 – 0.333333	NO	sRGB
420f	1280 x 720	3-120		54.267	YES	S	52.12	1.16	C	24-768	0.000025 – 0.333333	NO	sRGB
420v	1920 x 1080	2-30	3264 x 1836	54.267	NO	SC	95.62	1.55	C	24-768	0.000024 – 0.5	NO	sRGB
420f	1920 x 1080	2-30	3264 x 1836	54.267	NO	SC	95.62	1.55	C	24-768	0.000024 – 0.5	NO	sRGB
420v	2592 x 1936	2-30	3264 x 2448	54.267	NO		153.00	1.26	C	24-768	0.000024 – 0.5	NO	sRGB
420f	2592 x 1936	2-30	3264 x 2448	54.267	NO		153.00	1.26	C	24-768	0.000024 – 0.5	NO	sRGB
420v	3264 x 2448	2-30		54.267	NO		153.00	1.00	C	24-768	0.000024 – 0.5	NO	sRGB
420f	3264 x 2448	2-30		54.267	NO		153.00	1.00	C	24-768	0.000024 – 0.5	NO	sRGB

Table 4–23 iPad (5th generation) Front Camera

Type	Dimensions	FPS	HRSI	FOV	Binned	VIS	Zoom	Upscale	AF	ISO	SS	VHDR	Color
420v	192 x 144	1–30		55.200	NO		60.00	6.67		47–1504	0.000031 – 1	NO	sRGB
420f	192 x 144	1–30		55.200	NO		60.00	6.67		47–1504	0.000031 – 1	NO	sRGB
420v	352 x 288	1–30		50.629	NO		60.00	3.33		47–1504	0.000031 – 1	NO	sRGB
420f	352 x 288	1–30		50.629	NO		60.00	3.33		47–1504	0.000031 – 1	NO	sRGB
420v	480 x 360	1–30		55.200	NO		60.00	2.67		47–1504	0.000031 – 1	NO	sRGB
420f	480 x 360	1–30		55.200	NO		60.00	2.67		47–1504	0.000031 – 1	NO	sRGB
420v	640 x 480	1–30		55.200	NO		60.00	2.00		47–1504	0.000031 – 1	NO	sRGB
420f	640 x 480	1–30		55.200	NO		60.00	2.00		47–1504	0.000031 – 1	NO	sRGB
420v	960 x 540	1–30		59.340	NO		48.50	1.43		47–1504	0.000031 – 1	NO	sRGB

420f	960 x 540	1–30		59.340	NO		48.50	1.43		47–1504	0.000031 – 1	NO	sRGB
420v	1280 x 720	1–30		59.340	NO		48.50	1.08		47–1504	0.000031 – 1	NO	sRGB
420f	1280 x 720	1–30		59.340	NO		48.50	1.08		47–1504	0.000031 – 1	NO	sRGB
420v	1280 x 960	1–30		55.200	NO		60.00	1.00		47–1504	0.000031 – 1	NO	sRGB
420f	1280 x 960	1–30		55.200	NO		60.00	1.00		47–1504	0.000031 – 1	NO	sRGB

Table 4–24 iPad Pro (12.9-inch) Front Camera

Type	Dimensions	FPS	HRSI	FOV	Binned	VIS	Zoom	Upscale	AF	ISO	SS	VHDR	Color
420v	192 x 144	2–60		54.400	NO		60.00	6.67		34–2176	0.000013 – 0.5	YES	sRGB
420f	192 x 144	2–60		54.400	NO		60.00	6.67		34–2176	0.000013 – 0.5	YES	sRGB
420v	352 x 288	2–60		49.895	NO		60.00	3.33		34–2176	0.000013 – 0.5	YES	sRGB
420f	352 x 288	2–60		49.895	NO		60.00	3.33		34–2176	0.000013 – 0.5	YES	sRGB
420v	480 x 360	2–60		54.400	NO		60.00	2.67		34–2176	0.000013 – 0.5	YES	sRGB
420f	480 x 360	2–60		54.400	NO		60.00	2.67		34–2176	0.000013 – 0.5	YES	sRGB
420v	640 x 480	2–60		54.400	NO		60.00	2.00		34–2176	0.000013 – 0.5	YES	sRGB
420f	640 x 480	2–60		54.400	NO		60.00	2.00		34–2176	0.000013 – 0.5	YES	sRGB
420v	960 x 540	2–60		58.480	NO		48.50	1.43		34–2176	0.000013 – 0.5	YES	sRGB
420f	960 x 540	2–60		58.480	NO		48.50	1.43		34–2176	0.000013 – 0.5	YES	sRGB
420v	1280 x 720	2–60		58.480	NO		48.50	1.08		34–2176	0.000013 – 0.5	YES	sRGB
420f	1280 x 720	2–60		58.480	NO		48.50	1.08		34–2176	0.000013 – 0.5	YES	sRGB
420v	1280 x 960	2–60		54.400	NO		60.00	1.00		34–2176	0.000013 – 0.5	YES	sRGB
420f	1280 x 960	2–60		54.400	NO		60.00	1.00		34–2176	0.000013 – 0.5	YES	sRGB

Table 4–25 iPad Pro (9.7-inch) Back Camera

Type	Dimensions	FPS	HRSI	FOV	Binned	VIS	Zoom	Upscale	AF	ISO	SS	VHDR	Color
420v	192 x 144	3–30	4032 x 3024	57.702	NO		189.00	21.00	P	23–1472	0.000013 – 0.333333	NO	sRGB
420f	192 x 144	3–30	4032 x 3024	57.702	NO		189.00	21.00	P	23–1472	0.000013 – 0.333333	NO	P3
420v	352 x 288	3–30	3696 x 3024	52.893	NO		189.00	10.50	P	23–1472	0.000013 – 0.333333	NO	sRGB
420f	352 x 288	3–30	3696 x 3024	52.893	NO		189.00	10.50	P	23–1472	0.000013 – 0.333333	NO	P3

420v	480 x 360	3-30	4032 x 3024	57.702	NO		189.00	8.40	P	23-1472	0.000013 - 0.333333	NO	sRGB
420f	480 x 360	3-30	4032 x 3024	57.702	NO		189.00	8.40	P	23-1472	0.000013 - 0.333333	NO	P3
420v	640 x 480	3-30	4032 x 3024	57.702	NO		189.00	6.30	P	23-1472	0.000013 - 0.333333	NO	sRGB
420f	640 x 480	3-30	4032 x 3024	57.702	NO		189.00	6.30	P	23-1472	0.000013 - 0.333333	NO	P3
420v	960 x 540	3-30	4096 x 2304	58.632	NO	S	130.88	3.88	P	23-736	0.000013 - 0.333333	NO	sRGB
420f	960 x 540	3-30	4096 x 2304	58.632	NO	S	130.88	3.88	P	23-736	0.000013 - 0.333333	NO	P3
420v	960 x 540	3-60	4096 x 2304	58.632	NO	S	130.88	3.88	P	23-736	0.000013 - 0.333333	NO	sRGB
420f	960 x 540	3-60	4096 x 2304	58.632	NO	S	130.88	3.88	P	23-736	0.000013 - 0.333333	NO	P3
420v	1280 x 720	3-30	4096 x 2304	58.632	NO	SC	120.00	2.91	P	23-736	0.000013 - 0.333333	NO	sRGB
420f	1280 x 720	3-30	4096 x 2304	58.632	NO	SC	120.00	2.91	P	23-736	0.000013 - 0.333333	NO	P3
420v	1280 x 720	3-60	4096 x 2304	58.632	NO	SC	120.00	2.91	P	23-736	0.000013 - 0.333333	NO	sRGB
420f	1280 x 720	3-60	4096 x 2304	58.632	NO	SC	120.00	2.91	P	23-736	0.000013 - 0.333333	NO	P3
420v	1280 x 720	5-240		58.632	YES	S	65.50	1.45	C	23-736	0.000006 - 0.2	NO	sRGB
420f	1280 x 720	5-240		58.632	YES	S	65.50	1.45	C	23-736	0.000006 - 0.2	NO	P3
420v	1920 x 1080	3-30	4096 x 2304	58.632	NO	SC	4.00	1.94	P	23-736	0.000013 - 0.333333	NO	sRGB
420f	1920 x 1080	3-30	4096 x 2304	58.632	NO	SC	4.00	1.94	P	23-736	0.000013 - 0.333333	NO	P3
420v	1920 x 1080	3-60	4096 x 2304	58.632	NO	SC	4.00	1.94	P	23-736	0.000013 - 0.333333	NO	sRGB

420f	1920 x 1080	3-60	4096 x 2304	58.632	NO	SC	4.00	1.94	P	23-736	0.000013 – 0.333333	NO	P3
420v	1920 x 1080	3-120		58.632	YES	S	65.50	1.00	C	23-736	0.000013 – 0.333333	NO	sRGB
420f	1920 x 1080	3-120		58.632	YES	S	65.50	1.00	C	23-736	0.000013 – 0.333333	NO	P3
420v	2592 x 1936	3-30	4032 x 3024	57.716	NO		189.00	1.56	P	23-1840	0.000013 – 0.333333	NO	sRGB
420f	2592 x 1936	3-30	4032 x 3024	57.716	NO		189.00	1.56	P	23-1840	0.000013 – 0.333333	NO	P3
420v	3264 x 2448	3-30	4032 x 3024	57.716	NO		189.00	1.24	P	23-1840	0.000013 – 0.333333	NO	sRGB
420f	3264 x 2448	3-30	4032 x 3024	57.716	NO		189.00	1.24	P	23-1840	0.000013 – 0.333333	NO	P3
420v	3840 x 2160	3-30		58.632	NO	S	130.88	1.00	P	23-736	0.000013 – 0.333333	NO	sRGB
420f	3840 x 2160	3-30		58.632	NO	S	130.88	1.00	P	23-736	0.000013 – 0.333333	NO	P3
420v	4032 x 3024	3-30	4032 x 3024	57.716	NO		189.00	1.00	P	23-1840	0.000013 – 0.333333	NO	sRGB
420f	4032 x 3024	3-30	4032 x 3024	57.716	NO		189.00	1.00	P	23-1840	0.000013 – 0.333333	NO	P3

Table 4–26 iPad Pro (9.7-inch) Front Camera

Type	Dimensions	FPS	HRSI	FOV	Binned	VIS	Zoom	Upscale	AF	ISO	SS	VHDR	Color
420v	192 x 144	2-60		54.400	NO		60.00	6.67		34-2176	0.000013 – 0.5	YES	sRGB
420f	192 x 144	2-60		54.400	NO		60.00	6.67		34-2176	0.000013 – 0.5	YES	P3
420v	352 x 288	2-60		49.895	NO		60.00	3.33		34-2176	0.000013 – 0.5	YES	sRGB
420f	352 x 288	2-60		49.895	NO		60.00	3.33		34-2176	0.000013 – 0.5	YES	P3
420v	480 x 360	2-60		54.400	NO		60.00	2.67		34-2176	0.000013 – 0.5	YES	sRGB

420f	480 x 360	2-60		54.400	NO		60.00	2.67		34-2176	0.000013 - 0.5	YES	P3
420v	640 x 480	2-60		54.400	NO		60.00	2.00		34-2176	0.000013 - 0.5	YES	sRGB
420f	640 x 480	2-60		54.400	NO		60.00	2.00		34-2176	0.000013 - 0.5	YES	P3
420v	960 x 540	2-60		58.480	NO		48.50	1.43		34-2176	0.000013 - 0.5	YES	sRGB
420f	960 x 540	2-60		58.480	NO		48.50	1.43		34-2176	0.000013 - 0.5	YES	P3
420v	1280 x 720	2-60		58.480	NO		48.50	1.08		34-2176	0.000013 - 0.5	YES	sRGB
420f	1280 x 720	2-60		58.480	NO		48.50	1.08		34-2176	0.000013 - 0.5	YES	P3
420v	1280 x 960	2-60	2576 x 1932	54.400	NO		60.00	1.00		34-2176	0.000013 - 0.5	NO	sRGB
420f	1280 x 960	2-60	2576 x 1932	54.400	NO		60.00	1.00		34-2176	0.000013 - 0.5	NO	P3